

**THE LAW RELATING TO
ELECTRICAL ENERGY IN INDIA**

WORKS BY THE SAME AUTHOR.

Electrical Engineering Practice.

A practical treatise for electrical, civil and mechanical engineers, with many tables and illustrations, by J. W. Meares and R. E. Neale, B.Sc. (Hons.) (Lond.), A.C.G.I., A.M.I.E.E., David Salomons Scholar, Siemens Medallist. Fourth edition in three volumes (Chapman & Hall, London). The first two editions of this standard work were published in Calcutta by Messrs. Thacker, Spink & Co., under the title "Electrical Engineering in India." The fifth edition of volumes I and II will shortly be published, volume III, owing to unforeseen delays, having only appeared in 1933.

Hydro-Electric Developments (Pitman's Primers), London, 1920.

THE LAW RELATING TO ELECTRICAL ENERGY IN INDIA

BEING

THE INDIAN ELECTRICITY ACT, 1910

ACT IX OF 1910

INCORPORATING THE CHANGES MADE BY THE REPEALING AND AMENDING ACT, 1914 (X OF 1914), THE DEVOLUTION ACT, 1920 (XXXVIII OF 1920), THE INDIAN ELECTRICITY (AMENDMENT) ACT, 1922 (I OF 1922), THE INDIAN ELECTRICITY (AMENDMENT) ACT, 1923 (XL OF 1923), THE REPEALING AND AMENDING ACT, 1925 (XXXVII OF 1925)

With a General Introduction, consisting largely of modern Electrical Engineering practice, as applicable to Indian conditions, notes on clauses, extracts from other connected Acts, and Appendices consisting of Rules, Model Forms, etc., annotated

FOURTH EDITION

Revised throughout and greatly added to

BY

J. W. MEARES, C.I.E., F.R.A.S.

MEMBER OF THE ASSOCIATION OF CONSULTING ENGINEERS;

MEMBER OF THE INSTITUTION OF CIVIL ENGINEERS,

MEMBER OF THE INSTITUTION OF ELECTRICAL ENGINEERS,

MEMBER OF THE INSTITUTION OF ENGINEERS (INDIA)

*Late Electrical Adviser to the Government of India and Chief Engineer,
Hydro-Electric Survey of India*

CALCUTTA:

THACKER'S PRESS AND DIRECTORIES LTD.

1933

TO THE MEMORY OF THE LATE
SIR HERBERT CARNDUFF, K.C.I.E., I.C.S.,
FORMERLY
SECRETARY TO THE GOVERNMENT OF INDIA
IN THE LEGISLATIVE DEPARTMENT
AND LATER A
PUISNE JUDGE OF THE HIGH COURT, CALCUTTA,
TO WHOSE ASSISTANCE THE SUCCESS OF
THIS WORK IS GREATLY DUE.

PREFACE TO THE FOURTH EDITION.

IN the Preface to the first edition of this work it was stated that the Author's endeavour was "to cater alike for the lawyer whose knowledge of electrical engineering is limited and for the electrical engineer whose knowledge of law is nil"; and in the Preface to an even earlier work on "The Indian Electricity Act, 1903" (the forerunner of the present Act) it was hoped that the book would prove useful to "consulting engineers, actual or prospective licensees and their engineers, local authorities, officials of the Public Works and Telegraph Departments of Government and engineers generally." These hopes have been amply fulfilled, as shown by the regular demand for new editions. There has been very little recourse to the law courts under the Act, so that very few Indian "cases" can be cited; a somewhat extraordinary fact in a country so prone to litigation, but perhaps a compliment to the framers of the law, including the Author.

Since 1910, when the present Act governing electricity in India was passed, there have been a number of minor changes made, as shown by the Acts cited on the title-page; while the Rules under the Act were completely recast during the Author's last year in India (1922) and have since then been amended from time to time in details. The present edition takes account of all these changes, in which the Author took an active part as draughtsman and technical adviser. The notes on the technical aspect of the Rules have been very greatly increased, as some of them have been misinterpreted if not misused. To his former colleagues in the various Provinces of India and to the Government of India itself he wishes to tender his thanks for ready help in keeping abreast of matters at so great a

distance from the scene of action. Acknowledgment is also due to the present editor of *Wills' Electric Lighting* for matters relating to British cases which have a bearing on Indian law.

As will be expected from an engineer, there is almost as much practice as law within these covers; but the practical side has been more fully dealt with in the works cited on the flyleaf, one of which originated in India. Whatever future India is destined to evolve for herself in other respects, she clearly intends to make full use of electricity, with its manifold possibilities, some of which are lightly touched upon in the opening paragraphs of this commentary.

Suggestions are made in the notes for a number of minor amendments of the rules, when they are next revised; indeed there are several rules under amendment which it is hoped will be passed in time for incorporation. Attention is also called to a few minor defects in the wording of sections of the Act, but they are hardly such as can be met in a "Repealing and Amending Act." But, on the whole, the Author is strongly of opinion that both Act and Rules have worked well, and require no such drastic amendment as some critics, both official and licensee, profess to desire.

J. W. MEARES.

CHICHESTER, ENGLAND,
June 1st, 1933.

IMPORTANT NOTICE.

Certain of the Rules in Appendix I were under revision when this book went to Press; notes to this effect are made to them. If these are further amended before publication of this volume, an addendum will be printed after Appendix III on page 382.

The Law Relating to Electrical Energy in India.

CONTENTS.

FRONTISPIECE: CHART OF INDIA SHOWING WIND PRESSURES	<i>Facing page 1</i>
DEDICATION	PAGE iv
PREFACE TO THE FOURTH EDITION	v
TABLE OF CONTENTS	vii
TABLE OF BRITISH STATUTES AND INDIAN ENACTMENTS	xv
TABLE OF CASES CITED, BRITISH	xvii
" " " INDIAN	xviii

Chapter I.—Introductory.

1. THE ELECTRICAL INDUSTRY IN 1922—	
Water power	1
Transmission of power	2
Electric lighting	2
Electric motive power	3
Electric traction	3
Railway electrification	3
Electro-chemistry and metallurgy	4
Electrical undertakings in India, 1916; 1928; 1932	4
2. HISTORICAL NOTE—	
Legislation prior to 1903	8
The Electricity Act, XIII of 1887	8
The Calcutta Electric Lighting Act, 1895	9
The Howrah Bridge Electric Lighting Act, 1902	9
3. BRITISH UNDERTAKINGS—	
Procedure in Great Britain	9
4. PROCEDURE IN INDIA BEFORE 1903—	
Early licenses	10
Rules under the old Acts	11
5. ORIGIN AND DEFECTS OF THE INDIAN ELECTRICITY ACT, 1903—	
Local measures suggested	11
General Act decided upon	12

	PAGE
Defects in the Act of 1903	13
Difficulties as to supply in bulk	13
Dual control	13
The cantonment difficulty	14
Other changes suggested	14
General rearrangement of sections	14
 6. DEFECTS IN THE INDIAN ELECTRICITY ACT, 1910—	
The Electric Supply and Traction Federation	15
The British Indian Electric Committee	15
 Chapter II.—The Indian Electricity Act, 1910.	
7. GENERAL ARRANGEMENT OF THE ACT	16
Marginal headings, etc.	17
Part I	17
Part II (see chap. III)	17
Part III	17
Part IV	18
The Schedule	18
The Indian Electricity Rules	18
Statement of Objects and Reasons, 1910	18
Statement of Objects and Reasons, 1921	24
 Chapter III.—Licensed Undertakings—Part II of the Act and the Schedule, as amended.	
8. AS TO THE GRANT OF LICENSES	28
Licenses not compulsory	29
No monopoly	29
Inclusion of the Schedule	29
Procedure of applicant	30
Form of application	30
Form of draft license	30
Procedure of other persons concerned	31
Procedure of Government	31
Grant of license	31
Duration of license	31
 9. REVOCATION AND AMENDMENT OF LICENSES—	
The grounds for revocation	32
The public interest	32
Revocation by consent	33
Amendment of licenses	33
Revocation where licensee is not a local authority	33
Purchase in case of revocation where licensee is not a local authority	34
Combined undertakings and revocation	34
Severance	38
Conditions where purchase has been effected after revocation	38
Revocation of license of local authority	39

10. COMPULSORY PURCHASE—	
Licenses not subject to time limit	39
Options of purchase	39
Terms of compulsory purchase	40
Addition to price on account of compulsory purchase	42
Combined undertakings and purchase	42
Subsequent options to purchase	42
Conditions after purchase under section 7	42
Omission of purchase clause in special cases	43
Accounts (see para. 19)	43
11. AS TO LICENSEE'S WORKS—	
Powers of licensee as to works	44
Limitations of general power	45
Compulsory works	46
Notice of new works	47
Alteration of pipes or wires	47
Carrying out works near existing works	48
Fencing, lighting and reinstatement	48
Notice to telegraph authority	48
What are works	48
12. TRANSMISSION OF POWER LINES	49
Exercise of powers of telegraph authority	50
Extracts from Indian Telegraph Act	50
Part I. Definitions from Indian Telegraph Act	50
Part III. Power to place lines and posts	50
Provisions applicable to property vested in or under the control or management of local authorities	51
Provisions applicable to other property	52
Provisions applicable to all property	53
Part IV. Application of Telegraph Act to Presidency-towns and Rangoon	54
Discussion of above provisions	55
Private telephone lines	56
13. ACQUISITION OF LAND	57
Précis of Land Acquisition Act, 1894 (as amended)	57
Amendment of same by Indian Electricity Act	59
General procedure	59
Special provisions applicable to companies and persons	60
Amendment of the Land Acquisition Act, 1894	61
British provisions	62
14. AERIAL LINES—	
Early practice	62
Conditions in India	62
Method of construction	63
Alleged danger	64
Lack of efficient earthing	64
Faulty material	65
Dangerous pressure	65
Automatic safety devices	66
Lightning	66

	PAGE
Advantages of aerial lines	67
Requirements of the Act	68
Removal of trees and obstructions	68
Dangerous works	68
 15. COMPENSATION AND NUISANCE—	
Compensation	69
Nuisance	69
 16. SUPPLY AND USE OF LICENSEE'S ENERGY—	
System of supply	70
Alteration of system of supply	71
Area of supply	72
All applicants entitled to supply	73
Reserve plant	73
Point where supply begins	74
Requisitions for supply	74
Requisitions for laying mains	76
Supply to public lamps	77
Supply in bulk (see para. 18)	77
Licensee not to interfere with use of energy	77
Licensee's conditions of supply	78
Consumer not to interfere with supply	78
Internal wiring and licensing of contractors	79
Refusing to supply	80
Fire risks	80
Shock risks	81
Cutting off supply	82
Supply to be constant	84
 17. SUPPLY OF ENERGY IN BULK	85
British practice	85
Provisions in the Indian Electricity Act	86
Compulsory purchase in case of bulk supply	86
Sliding scale	87
Profit-sharing	88
 18. CHARGES FOR SUPPLY AND METERS	89
Methods of charging	90
Public lighting	90
Alteration of maximum charges	91
Minimum charges	92
Special systems of charging	93
The maximum demand system	93
Rateable value and other two-part tariffs	94
Fixed charge per kilowatt demand	94
Undue preference	95
Rebates	99
Load factor and diversity factor	100
Public lamps	102
Meters for measuring supply	102
Position of meter	103
Other apparatus	104
Meter disputes	104

Right of entry	106
Limits of responsibility	107
Attachment	107
19. AS TO MONEY MATTERS—	
Provision of capital by local authority	107
Provision of capital in other cases	108
Depreciation	108
Security	108
Accounts	108

Chapter IV.—Undertakings Working without License —Part III of the Act.

20. SUPPLY OF ENERGY WITHOUT LICENSE—	PAGE
Licenses not compulsory	111
Private undertakings	112
Undertakings for supply to the public	113
Power companies and bulk supply	114
Special sanctions given	115
The Henzada case	116
Breaking up of streets by non-licensees	116
Non-licensee's powers and liabilities	117
Non-licensees and the Rules	118
21. TRANSMISSION AND USE OF ENERGY UNDER PART III	118
Limitation of responsibility	119
Notice to be given and rules complied with	119
Exemptions	119
Penalty for breach	120
Application of Part IV	120
Power to break up streets	120

Chapter V.—General Provisions applicable to all Parties —Part IV of the Act.

22. PROTECTIVE CLAUSES	120
Connection with earth and dangerous works	121
Penalty	122
23. ARBITRATION—	
Matters to be settled	122
Extracts from Indian Arbitration Act, 1899	123
24. THE ADMINISTRATION OF THE ACT—	
Amendment Committee's recommendation in 1909	124
Cases where Government of India is concerned	124
General notes on administration	125
Government undertakings	126
Delegation of powers	127
The Local Government	128
25. ELECTRIC INSPECTORS AND ADVISORY BOARDS—	
Electric Inspectors	129
Advisory Boards	132

26. AS TO RULES—	
Power to make rules	134
Examination and publication of draft rules	136
The Crown	136
Penalty for breach of rules	136
Fines and their recovery	136
The Indian Electricity Rules and Annexures (see Appendix I)	137
The application of the Rules to various classes of persons interested in or affected by them (Table III)	138
27. OFFENCES AND THEIR PUNISHMENT—	
Offences by individuals	139
Offences by licensees	141
General penal clause	141
Penalties not to affect other liabilities	141
Penalties where works belong to Government	142
Institution of prosecutions	142
28. RECOVERY OF FINES AND OTHER SUMS—	
Recovery of fines	142
Offences not punishable twice	142
Recovery of sums other than fines	143

Chapter VI.—The Act in relation to various Parties.

29. THE GENERAL CLAUSES ACT, 1897	143
Definitions from the General Clauses Act	144
Clauses as to rules	145
Clauses as to repeal	146
Clauses as to sundry matters	147
30. THE LOCAL GOVERNMENT AND ITS OFFICERS IN RELATION TO THE ACT—	
The Local Government	148
As to works	148
The District Magistrate and Commissioner of Police	149
31. LOCAL AUTHORITIES—	
Definition of local authority	151
As to licenses	152
As to works	153
As to public lighting	154
Default	155
As to bulk supply (see para. 17)	155
32. RELATION OF VARIOUS AUTHORIZED PERSONS TO LICENSEES—	
Gas and water companies, etc.	155
Telephone companies	155
33. LICENSEES, CONSUMERS AND THE PUBLIC—	
Responsibility of licensee for works put up by a consumer; liability for accidents; interpretation of rules	156
The licensee	162
The consumer	163
The public	167

Chapter VII.—Railways and Tramways.

	PAGE
34. ELECTRIC TRACTION—	
As to the use of energy	168
Electric traction on railways	168
Electric traction on tramways	168
Railless traction	169
35. PRÉCIS OF TRAMWAY ACTS—	
The Indian Tramways Act, 1886	170
The Indian Tramways Act, 1902	175
The Bengal Tramways Act, 1883	175
Other local Acts	176
36. EARTH RETURNS AND EARTHED RETURNS—	
Summary of provisions in Act	176
General use of earth returns not contemplated	177
Connection with earth prescribed by rules	177
Special cases	177
Tramways	178
Provisions in British Tramway orders	179
Electrolytic action	181
Nuisance	181
The "Cape Town" case	182

Chapter VIII.—Repeals and Savings.

37. POWERS EXISTING PRIOR TO THE PASSING OF THIS ACT—	
Persons licensed under Act III of 1903	184
Persons licensed before commencement of Act III of 1903	185
Persons having agreements prior to 1903	186

The Indian Electricity Act, 1910.

As Amended in 1914, 1920, 1922, 1923, and 1925.

With Notes on Clauses.

DETAILED PAGED LIST OF PART, ITALIC AND MARGINAL HEADINGS OF SECTIONS	187
The Act, Part I, Preliminary	190
„ „ Part II, Supply of energy: Licenses	194
„ „ „ „ „ Works	212
„ „ „ „ „ Supply	220
„ „ Part III, Supply, transmission and use of energy by non- licenceses	245
„ „ Part IV, General: Protective clauses	253
„ „ „ Administration and Rules	259
„ „ „ Criminal offences and Procedure	265
„ „ „ Supplementary	277
„ „ Schedule	284

APPENDICES.

PAGE

APPENDIX I.—“INDIAN ELECTRICITY RULES, 1922,” (as amended) WITH ANNEXURES—

Detailed list of chapter, italic and marginal headings of rules and annexures thereto	309
THE RULES. Chap. I.—Preliminary	315
” ” ” II.—Electric Inspectors	319
” ” ” III.—Licenses	320
” ” ” IV.—Conditions of supply by licensee	323
” ” ” V.—Precautions for the safety of the public	326
” ” ” VI.—Penalties and miscellaneous	346
” ” Annexure I.—Specification relating to the deposition of silver	347
” ” ” II.—Scale of fees	348
” ” ” III.—Model Form of draft license	348
” ” ” IV.—Model Form of accounts for local authorities	353
” ” ” V.—Model Form of accounts for companies	359
” ” ” VI.—Form of Requisition for distributing mains	366
” ” ” VII.—Form of Requisition for supply	367
” ” ” VIII.—Form of order under Rule 4 (4)—compliance with rule	368
” ” ” IX.—Forms of Annual Returns for Oil-fields	369
” ” ” X.—Log-sheets for Mines and Oil-fields	371

APPENDIX II.—MODEL FORM OF LICENSEE'S CONDITIONS OF SUPPLY, MISCELLANEOUS CHARGES AND FORM OF AGREEMENT WITH CONSUMER

372

APPENDIX III.—BRITISH STANDARD SPECIFICATION FOR METERS, ABSTRACT OF

381

ADDENDUM

382

INDEX

383

LIST OF TABLES.

TABLE.	SUBJECT.	
1.	Illustrating Sliding Scale	88
2.	Illustrating Profit Sharing	89
3.	Application of the Indian Electricity Rules to various classes of persons	138

Table of British Statutes and Indian Enactments.

A.—British Statutes.

		1868
10 & 11 Vict., c. 15 . . .	(Gasworks Clauses Act, 1847)	44, 215, 238, 266, 275, 276
. . .	(The Government of India Act, 1870)	. . . 144, 199
33 & 34 Vict., c. 78 . . .	(Tramways Act, 1870)	. . . 173, 204
34 & 35 Vict., c. 41 . . .	(Gasworks Clauses Act, 1871)	44, 266, 275, 276
45 & 46 Vict., c. 56 . . .	(Electric Lighting Act, 1882)	9, 44, 62, 95, 97, 98, 197, 229, 238, 249, 266, 304
51 & 52 Vict., c. 12 . . .	(Electric Lighting Act, 1888)	9, 34, 198, 208, 250
52 & 53 Vict., c. 10 . . .	(Interpretation Act, 1889)	. . . 137
56 & 57 Vict., c. 61 . . .	(Public Authorities Protection Act, 1893)	. . . 282
62 & 63 Vict., c. 19 . . .	[Electric Lighting (Clauses) Act, 1899]	9, 24, 29, 44, 69, 181, 199, 215, 256, 258, 272, 273, 289, 294, 304
1 Edw. 7, c. 22 . . .	(The Factories and Workshops Act, 1901)	. . . 257
1 Edw. 7, c. 108 . . .	(The Sheffield Corporation Act, 1901)	. . . 179
. . .	Stroud and District Tramways Act, 1903	. . . 174
3 Edw. 7, c. 241 . . .	(Scottish Central Power Act, 1903)	24, 86, 300
6 Edw. 7, c. 185 . . .	(Shropshire, Worcestershire and Staffordshire Electric Power Act, 1906)	. . . 179
9 Edw. 7, c. 34 . . .	(Electric Lighting Act, 1909)	10, 62, 73, 83, 197, 210, 233, 237, 238, 244, 246
. . .	Western Valley (Mon.) Railless Traction Act, 1913	174
9 & 10 Geo. 5, c. 100 . . .	(The Electricity Supply Act, 1919)	. . . 10
12 & 13 Geo. 5, c. 46 . . .	(The Electricity (Supply) Act, 1922)	. . . 10, 73
16 & 17 Geo. 5, c. 51 . . .	(The Electricity (Supply) Act, 1926)	. . . 10, 94, 210

B.—Indian Enactments (Local and General).

Act XLV of 1860 . . .	(The Indian Penal Code)	52, 137, 139, 142, 266, 267, 268, 269, 270
Act VII of 1870 . . .	(The Court Fees Act, 1870, as modified to 1928)	. . . 54
Bom. Act I of 1874 . . .	(The Bombay Tramways Act, 1874)	. . . 176
Act XV of 1881 . . .	(The Indian Factories Act, 1881)	. . . 22, 27
Act XV of 1882 . . .	(The Presidency Small Cause Court Act, 1882, as modified to 1906)	. . . 54
Act XXII of 1883 . . .	(The Rangoon Tramways Act, 1883)	. . . 176
Ben. Act III of 1883 . . .	(The Bengal Tramways Act, 1883)	. . . 35, 175
Bom. Act II of 1883 . . .	(The Karachi Tramways Act, 1883)	. . . 176
Act XIII of 1885 . . .	(The Indian Telegraph Act, 1885)	49, 50 <i>et seq.</i> , 69, 149, 156, 191, 192, 215, 228, 278 <i>et seq.</i>
Act XI of 1886 . . .	(The Indian Tramways Act, 1886)	24, 35, 59, 169 <i>et seq.</i> , 283
Act XIII of 1887 . . .	(The Electricity Act, 1887) <i>repealed</i>	8, 11, 49, 190, 250, 251

	PAGE	
Act XI of 1888 . . . [The Indian Telegraph (Amendment) Act, 1888]	228	
Act IX of 1890 . . . (The Indian Railways Act, 1890) . . . 20, 23, 68, 119, 127, 168, 249, 252, 253, 257, 263		
Act XX of 1891 . . . (The Punjab Municipal Act, 1891)	194	
Act I of 1894 . . . (The Land Acquisition Act, 1894) . . . 20, 23, 24, 57 <i>et seq.</i> , 69, 172, 184, 283, 320		
Ben. Act IX of 1895 . . . (The Calcutta Electric Lighting Act, 1895) <i>repealed</i> . . . 8, 9, 11, 32, 40, 185, 227		
Act X of 1895 . . . (The Indian Railway Companies Act, 1895)	175	
Act X of 1897 . . . (The General Clauses Act, 1897) . . . 39, 135, 137, 142, 143 <i>et seq.</i> , 184, 186, 180, 193, 197, 233, 234, 251, 260, 265, 281, 284		
Act IX of 1899 . . . (The Indian Arbitration Act, 1899)	122 to 124, 281	
Ben. Act IV of 1900 . . . [The Calcutta Tramways (Electric Traction) Act, 1900]	176	
Act VIII of 1901 . . . (The Indian Mines Act, 1901), <i>repealed</i>	22, 23, 277	
Act IV of 1902 . . . (The Indian Tramways Act, 1902)	170, 175	
Ben. Act I of 1902 . . . (The Howrah Bridge Electric Lighting Act, 1902) <i>repealed</i>	8, 9, 185	
Act III of 1903 . . . (The Indian Electricity Act, 1903) <i>repealed</i> . . . 11 <i>et seq.</i> , 24, 111, 120, 124, 145, 147, 154, 165, 184, 208, 210, 228, 251, 278, 283, 296, 302		
Act IV of 1910 . . . [The Indian Companies (Amendment) Act, 1910]	108, 175	
Act IX of 1910 . . . (The Indian Electricity Act, 1910) <i>passim</i> Table of section headings and annotated text . . . 187 <i>et seq.</i>		
Act XII of 1911 . . . (The Indian Factories Act, 1911) . . . 27, 118, 249, 251, 252, 257		
Act V of 1911 . . . [The Indian Tramways (Amendment) Act, 1911]	170, 174, 175	
Act VII of 1914 . . . [The Indian Telegraph (Amendment) Act, 1914]	50, 279, 280	
Act VIII of 1914 . . . The Indian Motor Vehicles Act, 1914	169	
Act X of 1914 . . . (The Repealing and Amending Act, 1914)	16, 187, 297	
Act II of 1918 . . . (The Cinematograph Act, 1918)	120, 253	
Act XXIII of 1919 . . . [The Cinematograph (Amendment) Act, 1919]	120, 253	
Act XXXVIII of 1920 . . . (The Devolution Act, 1920) . . . 16, 44, 57, 70, 121, 124, 147, 171, 176, 187, 197, 199, 211, 258		
Act I of 1922 . . . [The Indian Electricity (Amendment) Act, 1922]	16, 24, 49, 68, 74, 76, 77, 78, 82, 83, 84, 89, 91, 92, 96, 102, 105, 106, 111, 118, 121, 124, 132, 133, 149, 154, 163, 166, 184, 187, 193, 226, 229 <i>et seq.</i> , 235, 236, 242, 243, 245, 246, 251, 256, 258, 259, 261, 264, 275, 280, 292, 293, 297, 298, 301, 302, 303, 306	
Act II of 1922 . . . [The Indian Factories (Amendment) Act, 1922]	118, 251	
Act IV of 1923 . . . (The Indian Mines Act, 1923) . . . 118, 124, 249, 252, 257, 277, 317, 318		
Act IX of 1923 . . . [The Indian Factories (Amendment) Act, 1923]	251	
Act XXXVIII of 1923 . . . [The Land Acquisition (Amendment) Act, 1923]	57, 58, 60	
Act XL of 1923 . . . [The Indian Electricity (Amendment) Act, 1923]	16, 68, 187, 249	
Act XXXVII of 1925 . . . [The Repealing and Amending Act, 1925]	16, 187, 190	
. The Federated Shan Laws and Criminal Justice Order, 1926	215, 231	
Act XXVI of 1926 . . . [The Indian Factories (Amendment) Act, 1926]	251	
Act XIII of 1928 . . . [The Indian Mines (Amendment) Act, 1928]	118, 252	

TABLE OF CASES CITED.

British.

	PAGE
Andrews v. Abertillery Urban District Council (1911), 2 Ch. 398	249
Attorney-General v. Hackney Borough Council (1917), 86 L. J. Ch. 682; 15 L. G. R. 676; 33 T. L. R. 548; 34 T. L. R. 166	97
Attorney-General v. Ilford Urban District Council (1914), 84 L. J. Ch. 860; 13 L. G. R. 441	97
Attorney-General v. Long Eaton Urban District Council, L. R. (1914) 2 Ch. 251, and on appeal 31 <i>The Times</i> L. R. 45; [1915] 1 Ch. 124	97, 98
Attorney-General v. Melbourne Corporation, L. R. 1907, A. C. 469	102
Attorney-General v. South London Electric Supply Corporation (1914)	97
Attorney-General (ex rel. Weybridge Urban District Council) v. Urban District Supply Co., Ltd. (1904, 1905)	272
Attorney-General (ex rel. Willesden Urban District Council) v. The Metropolitan Electric Supply Co., Ltd., L. R. 1905, 1 Ch. 757	272
Battersea Vestry v. County of London and Brush Provincial Electric Lighting Co., L. R. (1899) 1 Ch. 474	117, 153
Chelsea Borough Council v. Underground Electric Railway Co. (1920)	70
City of London Electric Lighting Co. v. Melling (1906)	105
City of London Electric Lighting Co. v. Oakley; <i>The Electrician</i> , Nov. 14, 1902, p. 158	243
Colwell v. St. Pancras Borough Council, L. R. 1904 1 Ch. 707	69
Crystal Palace Gas Co. v. Idris (1900), 82 L. T. 200	276
Davies v. Rockhouse Hotel Co. (1907)	70
Demerara Electric Co. v. White, L. R. 1907; A. C. 330	70
Dudley, Stourbridge and District Electric Traction Co. v. Dudley Corporation	173
Eastern and South African Telegraph Co. v. Cape Town Tramway Co., L. R. (1902), A. C. 381	156, 180, 182 <i>et seq.</i> , 255
Edgware Highway Board v. Harrow District Gas Co. (1874) L. R. 10, Q. B. 92	214
Edwards v. Brixham Gas and Electricity Co. (1913)	70
Fletcher v. Rylands (1868) L. R. 3, H. L. 330	182, 184
Gas Light and Coke Co. v. Hardy (1886), 17 Q. B. D. 619	238
Gas Light and Coke Co. v. South Metropolitan Gas Co., 62 L. J. Ch. 123; 62 L. T. 126; 5 T. L. R. 731	73, 229, 272
Glasgow Corporation v. Glasgow and South Western Railway (1895), A. C. 376; 59 J. P. 788; 64 L. J. P. C. 171; 72 L. T. 809; 11 R. 226	194
Glasgow and South-Western Railway v. Glasgow Corporation (1901), 3 F. 526	214
Gudson v. Sunbury Gas Consumers Co. (1896) 75 L. T. 251	214
Husey v. London Electric Supply Corporation, L. R. (1902) 1 Ch. 411	96
Islington Borough Council v. Gas Light and Coke Co. (1902)	70
Knight v. Isle of Wight Electric Light and Power Co. (1904), 73 L. J. Ch. 299; 90 L. T. 410; 68 J. P. 266; 2 L. G. R. 390; 20 T. L. R. 173	69

	PAGE
Lakeman v. Corporation of Chester (1933) K. B. D., <i>The Times</i> , March 3rd	72
Leyton Urban Council v. North Metropolitan Tramways Co.; <i>The Electrician</i> , July 13, 1906	174
London County Council v. London Electric Supply Corporation (1900)	273
London County Council v. London Street Tramways Co., 1894, A. C. 489	173
London Electric Supply Corporation v. Greenberg (1902)	96
London Electric Supply Corporation v. Priddis (1901), 18 T. L. R. 64	93, 96
Manchester Carriage and Tramways Co. v. Manchester Corporation; <i>The Electrician</i> , Aug. 1, 1902, p. 603, and May 8, 1903, p. 132	173
Manchester Carriage and Tramways Co. v. Swinton and Pendlebury U.D. Council; <i>The Electrician</i> , Dec. 2 and 9, 1904	173
Marylebone Vestry v. Metropolitan Electric Supply Co. (1900)	272
Melbourne Gas Co. v. Melbourne Corporation; see above Attorney-General v. Melbourne Corporation.	
Metropolitan Electric Supply Co. v. Ginder, L. R. (1901) 2 Ch. 799	96
Midwood v. The Corporation of Manchester, L. R. (1905) 2 K. B. 597	70
National Telephone Co. v. Baker (1893), 57 J. P. 373; L. R. 2 Ch. 186	181, 184
North Metropolitan Tramways Co. v. London County Council, 1895, W. N. 91	173
Nottingham Corporation v. Cox (1914)	294
Oldham, etc., Tramways v. Ashton Corporation, L. R. (1921) 1 K. B. 269	41
Penny v. Wimbledon Urban District Council, L. R. (1898) 2 Q. B. 212; (1899) 2 Q. B. 72	225
Re Clyde Valley Power Co.'s Order; <i>The Electrician</i> , July 22, 1904	179
„ Ealing Company's Bill	275
„ London United Tramways Bill, 1901	179
„ Sheffield Corporation Act, 1901	179
„ Shropshire, Worcestershire and Staffordshire Electric Power Act, 1906	179
„ Swansea and District Order, 1902	179
„ Torquay Tramways Bill	179
„ Weston-super-Mare Tramway Bill (1900)	156, 180, 255
Reg. v. White, 22 L. J. M. C. 123	266
Rex. v. United Kingdom Telegraph Co. (1862) 31 L. J. M. C. 166	194
Schweder v. Worthing Gas Light and Coke Co. (1912), 1 Ch. 83	214, 215
Shaddick v. London Electric Supply Corporation (1900)	273
Shelfer v. City of London Electric Lighting Co., Ltd., L. R. (1895) 1 Ch. 287 (1895) 2 Ch. 388	69
South Metropolitan Gas Co. v. The Mayor, etc., of Bermondsey	242
South Shields Corporation v. South Shields Gas Co. (1903)	70
Sun Insurance Co. v. Dublin Corporation (1898)	272, 293
Taff Vale Railway Co. v. Cardiff Gas Co. (1907), 5 L. J. 993	194
Thompson v. Sunderland Gas Co. (1877) 2 Ex. d. 429	215
Westlake v. St. Pancras Borough Council (1906)	70

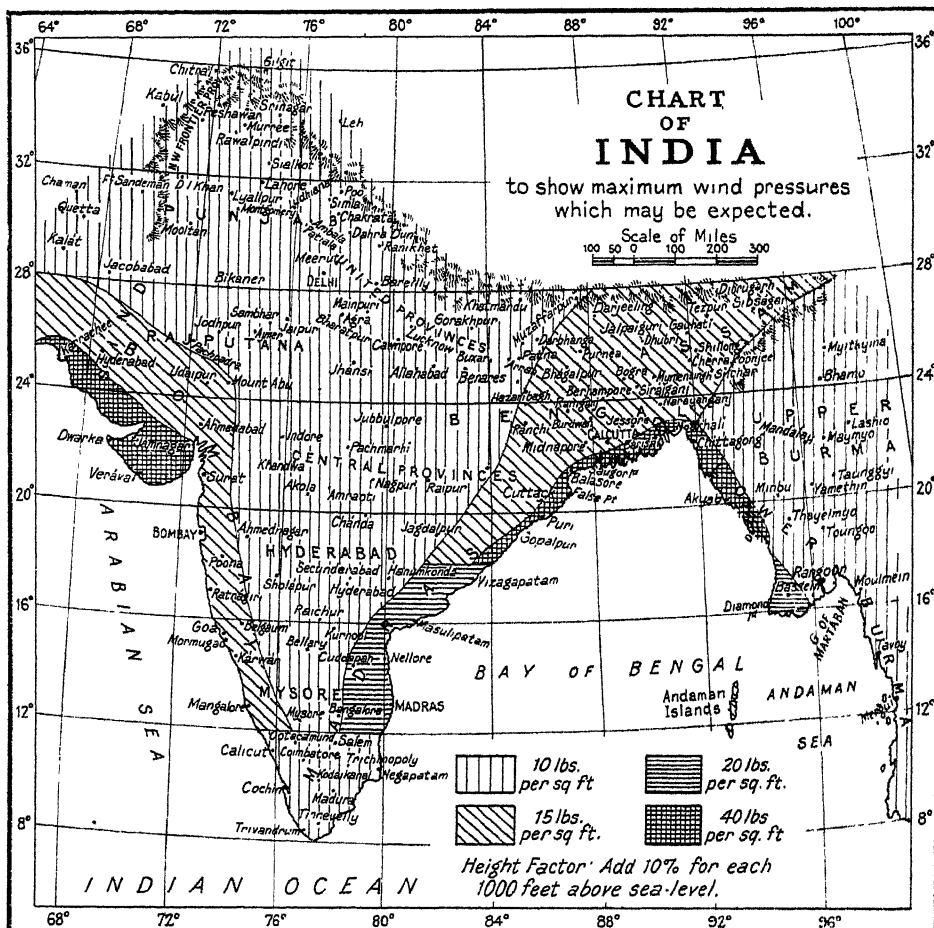
Indian.

Bombay Gas Co. v. Bombay Electric Supply and Tramways Co. (1914) 1 L. R. 39 B. 124; 16 B. L. R. 964	221
Delhi Electric Traction and Lighting Co. v. Ram Richhpai and Ram Gopal (1914)	267, 324
Electric Inspector, Madras, v. Madras Electric Supply Corporation (1924)	
King-Emperor v. Ram Dayal (Cawnpore, 1929)	269

TABLE OF CASES CITED.

xix

	PAGE
King-Emperor <i>v.</i> Rangoon Electric Traction and Supply Co.; <i>see below</i>	
Rangoon E. T. & S. Co. <i>v.</i> King-Emperor.	
King-Emperor <i>v.</i> Swami Dayal (Cawnpore, 192)	269
Lala Durga Das <i>v.</i> Lahore Electric Supply Co. (1917) No. 85 (Civil) P. R. of	
1918	83, 327
Madras Electric Supply Corporation (13 July, 1915) as to accidents	258
Rangoon Electric Traction and Supply Co. <i>v.</i> King-Emperor (Appeal)	74, 104,
156 <i>et seq.</i> , 193, 251, 273, 296, 325	
Rangoon Electric Tramway and Supply Co. <i>v.</i> M. S. Shah (1915)	268, 269
Suraj Prosad Singh <i>v.</i> Calcutta Electric Supply Corporation (1914)	83



The Law Relating to Electrical Energy in India.

CHAPTER I.

INTRODUCTORY.

1. The Electrical Industry in 1933. — Although it is outside the scope of this volume to deal with the technical aspect of the supply and use of electricity, which the Author has dealt with elsewhere,* a short summary of the present position and of recent progress, with especial reference to the Indian Empire, appears to be called for. Further information should be sought for in the work cited, in the proceedings of scientific societies, and in the columns of the technical press.

PARA. I.
—

In the first edition of this work, published in 1910, the probability that water-power development would take a prominent place in the near future was forecasted. Already the younger nations, and those among the elders which were dependent on imported fuel for their industries, were using nature's "white coal" to a considerable extent; but under the stimulus of the world war every civilized country took steps to examine the extent of its water power resources, in view of the diminished output and increased cost of all forms of fuel. Thus, in common with the rest of the British Empire, India conducted a hydro-electric survey. Begun under the direction of Mr. G. T. Barlow, with the present Author as his technical adviser, the former officer died during his preliminary tour in the Provinces so that the completion of the work fell to the lot of the Author; then the Reforms, by taking the matter out of the hands of the Government of India, closed down the Survey soon after the issue of the "Triennial Report of the Hydro-electric Survey of India." † Since then, however, further survey has been undertaken by

* Electrical Engineering Practice, 4th and 5th Editions, 3 volumes, by J. W. Meares and R. E. Neale; Chapman & Hall, London.

† Superintendent of Government Printing, India; Calcutta, 1921.

PARA. 1. some of the local Governments, particularly the Punjab and Madras. Meanwhile large works of development are in progress both in Mandi State by the Punjab Government, in the Nilgiri Hills by the Madras Government and in the United Provinces; in every case utilizing sites to which attention was drawn in the above-mentioned report. Bombay had long before started on the chain of hydro-electric plants in the Western Ghats, which in their lay-out, using stored water with no flow for half the year, are unique.

Transmission of power. The distance to which electricity can be, and actually is, economically transmitted is still extending, limited by little else than the competition afforded by power generated from fuel at or near the point where it is used. As the cost of fuel rises the economic limits of transmission also extend, and transmission lines of the order of 250 miles in length have been working for the past fifteen years or more. Transmission pressures have now risen to 220,000 volts, while far higher pressures have been experimentally used; but it is unlikely that 220,000 volts will be exceeded on any of the present systems for reasons which it is not necessary to discuss here. New systems known as half-wave and quarter-wave have, however, been proposed by which it is conceivable that the economic length of transmission (subject always to the additional capital cost) may be doubled or quadrupled at existing pressures and with no greater loss of power.

Electric lighting. To the "man in the street" electrical energy is synonymous with the provision of electric lighting and (in the tropics) electric fans in the home; but the relative importance of lighting in relation to other uses of electricity is steadily diminishing. Nevertheless the art continues its progress from one improvement to another, so that illuminating engineering has become a specialized branch of the profession. Beginning with the now obsolete carbon filament lamp, great progress was made when the tungsten filament lamp reduced the consumption of power about three-fold; now the gas-filled lamp has superseded this with a further instalment of economy or, more often, with an improvement in illumination for the same amount of power. Already the high-candle power gas-filled lamp has practically superseded the arc lamp for street lighting, while the development of smaller units proceeds. Simultaneously other and distinct types of lamp are emerging from the laboratory stage. In most countries there is beneficial competition from gas lighting, but in India—

except for one or two large cities—the rival illuminant is oil. The war rise in the cost of plant and establishment proved a severe set-back to the attainment of electricity as “the poor man’s light.” PARA. 1.

The use of electric motors has extended greatly in recent years, especially in connection with factories. In mining operations also electrical working tends to become the standard. Textile factories are able to increase their output and profits by substituting motors, with their exceptionally even turning moment, for the less regular drive of even the most modern steam engine ; the cotton mills of Bombay and the jute and cotton industries of Bengal bear witness to this. The electric fan makes up in numbers for the small size of its motor and has become one of the chief factors in the success of Indian electrical undertakings, owing to its long working hours. Electric
motive
power.

The petrol-driven vehicle has in the past decade been so severe a competitor to the urban electric tramway that new tramway systems are not to any great extent being laid down ; there are signs however that the self-contained electric car, already in use in its thousands in America, will presently restore the equilibrium. Inter-urban electric tramways have not taken root in India, where the smaller feeder lines are invariably worked by steam. Railway electrification has made great progress both in America and in Europe, especially to meet the congested morning and evening traffic of suburban lines. Bombay has already led the way on the B.B. & C.I. and G.I.P. railways. There is room for this improvement on the local lines of Calcutta also, but elsewhere in India the density of main line passenger traffic will not at present warrant change. Mountain railways are, however, in a different category, for water power can almost invariably be found within easy reach of them ; their fuel costs are necessarily very high, and the potential power of the descending trains cannot, as with electric traction, be used to assist those on the ascending grade. The Nilgiri Railway and the Kalka-Simla Railway may be cited as examples ; both have been the subject of enquiries and reports, but there the matter remains and probably will remain until traffic difficulties render electrification imperative. Continuous current traction has been used for most urban lines ; single-phase alternating current allows a greater radius of action and has been used considerably ; three-phase alternate current working has been in Electric
traction.

Railway
electrifica-
tion.

PARA. 1.

use for over 20 years and will probably win the "battle of the systems" in the end. With alternating current much higher pressures are practicable on the overhead trolley line than with continuous current. In the matter of speed the German record of 102 miles per hour for a short distance (Berlin-Zossen) has sunk into insignificance by comparison with automobile and aeroplane speeds.

Electro-
chemistry
and
metallurgy.

During the years of the war by far the most important use of electricity was in chemical operations. Although it was long foreseen that a shortage of nitric acid and other essentials of the explosives industry would occur soon after the outbreak of a European war, only the Central Powers and their near neighbours prepared for the contingency. In times of peace the margin of profit of electrically produced nitrates over the natural products is small, and only water power can supply the electrical energy required—which is here the main item of cost—at a rate sufficiently cheap to make competition possible. During the European war, economics retired behind necessity, and Germany produced her synthetic nitrates from electric power generated in fuel-driven stations. Norway is the home of this industry, however, and she now has the immense advantage of huge plants erected at pre-war cost for the sole production of nitrates from the air. Among the chief electro-chemical processes in use are the direct fixation of atmospheric nitrogen to nitric acid in the single-phase and three-phase arc and the production of calcium carbide and cyanamide, from which nitric acid can subsequently be obtained. The production of fine steels and ferro-alloys in the electric furnace has made immense strides during the period under review, while the manufacture of pig iron from high-grade ores is now becoming commercially practicable where power is sufficiently cheap. The world's supply of aluminium is obtained electrolytically and the electrical world's copper is refined by the same method. Others of the rarer or more easily oxidized metals are produced electrically, as are also phosphorus, carborundum and other abrasives, artificial and synthetic gems, chlorine and its compounds, hydrogen and so forth. All these processes are dealt with in volume III of the work mentioned in the footnote on page 1.

Electrical
undertakings
in India.
1916.

As in 1910, so now, progress in all these industries in British India has been disappointing to those who try to advance the unchanging East; and without industries the need for power is limited. An official summary of the under-

takings at work was published in 1911-12 and again in 1916-17.* In the latter year the total number of licensed undertakings for public electric supply in British India was 28; their combined plant capacity was 104,000 kilowatts, of which the Tata Hydro-electric Power Supply Co. accounted for nearly half. The total number of units sold was 154 million. Of 129,000 kilowatts of load connected to these stations public lighting accounted for 1 per cent.; private lighting and fans for 44 per cent.; tramways for 5 per cent.; and industrial power for 50 per cent. For the whole of India, including Native States and both public and private plants (except some small low-pressure installations not tabulated), there were in 1916-17 38,800 kilowatts of continuous current plant and 176,600 kilowatts of alternating current plant; steam engines and turbines accounted for 129,400, oil engines for 6,900, gas engines for 1,100, and water power for 78,000 kilowatts.

Of the public undertakings included above the Tata hydro-electric installations are the only ones transmitting energy over a long distance and the only ones mainly depending on an industrial factory load—for the good reason that they are the only ones able to compete in price with steam engines on the spot. The significance of the fact should not be lost sight of now that hydro-electric surveys have been carried out in India.† Certain privately owned hydro-electric undertakings have been developed on a fairly large scale for mining or other industrial work. Mysore and Kashmir also have been among the pioneers; the Cauvery undertaking in Mysore, when first set to work in 1902, had one of the few long transmission lines in the world; but these States are not comprised within British India.

The latest available returns are found in a new issue 1928. of the List of electrical undertakings, 1927-28, referred to in the footnote, from which the round figures in the tables have been deduced:—

* List of Electrical Undertakings in India, compiled in the Office of the Electrical Adviser to the Government of India. (Superintendent of Government Printing, India, Calcutta.) Second edition 1916-17. Supplements 1919, 1920, 1921. Publication of these useful Lists and Supplements ceased with the abolition of the office issuing them, in 1922, until 1927 when the Electrical Engineer to the Punjab Government issued a revised list—see below.

† Triennial Report on the Water-Power Resources of India. 1921, by Mr. J. W. Meares; Superintendent of Government Printing (India), Calcutta. See also page 1, *supra*, "water power."

PARA. 1.

	Kilowatts.	Total. Kilowatts.	
Steam plant . . .	187,000	325,000	
Oil and gas plant . . .	14,000		
Water plant . . .	124,000		
Government concerns . . .	3,000	5,000	
Non-licensees . . .	2,000		
<i>Licensed undertakings.</i>			
Companies . . .	314,000	320,000	325,000
Local authorities . . .	6,000		
Direct current . . .	31,000		325,000
Alternating current . . .	294,000		

Installations in British India only are listed ; not those in the Native States ; and in British India, the Military Works Services plants and Bihar are not included. By Provinces, the distribution is as follows :—

	No. of Licensed Undertakings.	Kilowatts of Plant; all Undertakings.	
Bengal and Assam . . .	5	85,000	Omitted in list.
Bihar and Orissa . . .	—	—	
Bombay . . .	15	161,000	Mostly very small.
Burma . . .	52	20,000	
Central Provinces . . .	4	1,500	
Delhi . . .	1	5,000	
Madras . . .	6	17,000	
Punjab . . .	5	12,000	
United Provinces . . .	4	23,000	
Elsewhere . . .	—	500	
Totals	92	325,000	

Omitting certain returns which are evidently incorrect (especially from Burma), there are some 140,000 consumers in India, with a total connected load of about 360,000 kilowatts, as well as 3500 kilowatts connected to public lamps. The total units generated amount to about 700 millions and those sold or utilized to about 600 millions.

A supplement to the List of Electrical Undertakings in India, issued by Mr. F. L. Milne, M.I.E.E., in 1932, brings the statistics up to 1930; but a good many undertakings failed to send in any returns. In a preface to the list Mr. Milne writes:—

PARA. 1.

1932.

“Taking the Punjab as a guide, the author is of opinion that the figures given in columns 2, 3 and 4 of the statement should be about doubled to arrive at approximate figures for all undertakings in India and Burma, as there are many which do not find a place in the list. On this basis he concludes that some 82 crores of rupees are invested in electrical undertakings, with an installed generating capacity of some 830,000 kilowatts.”

An analysis of the undertakings which are contained in the list brings out the following interesting facts, which relate to the years 1929-30:—

Name of Province or Administration.	Capital expenditure at the end of the year.	Kw. of generating plant installed.	Units generated during the year.	Capital cost per kw installed.	Units generated per kw. installed.
1	2	3	4	5	6
	Rs.			Rs.	
Assam . . .	11,54,130	701	799,070	1,646	1,139
Baluchistan . .	9,81,438	709	524,571	1,384	739
Bengal . . .	7,38,69,934	114,404	232,028,145	646	2,028
Bombay . . .	24,28,14,136	196,153	519,515,994	1,237	2,648
Bihar and Orissa .	33,89,057	3,110	4,927,562	1,089	1,584
Burma . . .	—	21,164	32,662,885	—	1,543
Central Provinces	45,70,967	3,428	4,867,662	1,333	1,419
Delhi . . .	78,93,156	5,227	17,677,116	1,510	3,381
Madras . . .	1,99,51,206	23,906	28,576,463	835	1,195
Punjab . . .	1,52,71,303	13,746	26,792,209	1,110	1,948
Railways . . .	12,68,583	2,350	2,477,278	539	1,054
United Provinces .	2,25,83,000	33,047	55,946,374	683	1,693
Totals .	39,37,46,910	417,945	926,795,329	992 (Av.)	2,217 (Av.)

The Uhl River hydro-electric scheme has recently been officially opened by His Excellency the Viceroy, and will supply energy over a large part of the Punjab. As an engineering feat, it will hold a high place in electrical engineering in India, though the Author has criticized the financial and commercial aspects of it and considers that better results would have accrued from a fuel station nearer

PARA. 1. — the centre of the load. Another hydro-electric scheme, utilizing canal falls, has started work in the United Provinces, and others are under construction in Madras. The above statistics will, therefore, soon be out of date; a matter viewed by the Author with equanimity and pleasure.

PARA. 2.
—
Legislation
prior to
1903.

2. **Historical Note.**—Up to the year 1903 the Indian Statute Book contained only three enactments relating to electricity, one of general and the other two of purely local application, namely, the Electricity Act (XIII of 1887), the Calcutta Electric Lighting Act (Bengal Act IX of 1895) and the Howrah Bridge Electric Lighting Act (Bengal Act I of 1902). The only undertaking working under statutory powers in that year was one for general supply in Calcutta, where it was soon found that the legislation in force was by no means satisfactory either to Government, the company or the public. The time was ripe for stopping further mischief, for if a few more local Acts had been passed it might have proved an impossible task afterwards to bring the various Provinces into line under one uniform Imperial enactment.

The Electric-
ity Act
(XIII of
1887).

In 1887, when the electrical achievements of India covered only the erection of a few Brush arc lighting dynamos and a few Jablokhoff candles,* the Government of India decided to introduce the first legislative measure dealing with the matter. Warned no doubt by the consequences of the restrictive and yet vague English Statute of 1882, which practically put a stop to all electrical progress for six years, the Government of India did not then commit itself hastily to exhaustive or detailed legislation on so complicated a subject. The Act of 1887 professed to be no more than a temporary measure, designed to give the Government a sufficient controlling power for the adequate protection of the public by means of rules, until the time should be ripe for full consideration of the subject. At this time no experience on a large scale was available on which a measure of such industrial importance could be based—unless, indeed, the English Statutes were to be blindly followed. The foresight shown at that time enabled the industry to get a fair start instead of being smothered at birth.

* It is a matter of historical interest that these early arc lamps were still working in the Eden Gardens, Calcutta, up to the very end of the nineteenth century, when the present writer had them removed.

When the first large scheme for the public supply of electrical energy in India—for the city of Calcutta—began to take practical shape, the Local Government undertook the necessary legislation, the result being the Calcutta Electric Lighting Act, 1895 (Bengal Act IX of 1895). It applied to Calcutta only in the first place, though there was power to extend it to other Municipalities, and this was done in the case of Howrah, Dacca and Darjeeling. The Calcutta Electric Lighting Act, 1895, cannot be said to have been a striking success, though it served its purpose very well as a pioneer enactment.

PARA. 2.
The Calcutta
Electric
Lighting Act
(Bengal Act
IX of 1895).

The Howrah Bridge, which connects that town with Calcutta, was unfortunately found to be situated in no Municipality, and a special Act had to be passed by the local legislature to meet this defect. It was repealed, together with the other measures referred to, in the following year.

Howrah
Bridge
Electric
Lighting
Act (Bengal
Act I of
1902).

3. **British Undertakings.**—It is here desirable to explain in as few words as possible the English procedure in the matter of authorizing and regulating electrical undertakings. Until 1926, three methods existed—Special Act, License and Special Order. Special Acts were seldom passed until the question of supply in bulk (see para. 17, *post*) began to attract attention. A few licenses were granted by the Board of Trade for short periods, generally for experimental purposes and not necessarily with a view to permanence, but none have been granted now for many years past. The ordinary form of procedure in England was by means of a “Provisional Order” of the Board of Trade, confirmed by Parliament as a “Special Order” and thenceforward having the force of law—binding alike on all parties affected by its clauses. Special Orders are (with a very few exceptions) limited in duration only by the fact that the undertakings they govern can be purchased compulsorily after a term of years—21 years under the original Electric Lighting Act, 1882, and 42 years under the amending Electric Lighting Act, 1888, when it had been found that investors were not content with so short a term of possession, or such stringent terms of purchase. The Electric Lighting (Clauses) Act, 1899, contained a schedule which is “deemed to be incorporated” in all Provisional Orders of the Board of Trade, so that the Orders themselves have a very simple character. This Act merely consolidated provisions previously set forth

PARA. 3.
Procedure
in Great
Britain.

PARA. 3.

expressly in all Orders. A later addition to this list is the Electric Lighting Act, 1909, which came into force in April, 1910. It revised the existing law in various important particulars and removed many anomalies. In more recent times, under stress of war conditions, the old order has changed greatly. The powers hitherto vested in the Board of Trade have been transferred to the Electricity Commissioners; and fresh legislation was enacted in 1919 and 1922, though merely of an amending nature. At last, however, in 1926, a really comprehensive Act was passed, and the Central Electricity Board was formed for the express purpose of reorganizing the whole electric supply industry in Great Britain. For an account of "The Electricity (Supply) Act, 1926," the reader is referred to the standard work under that title by Dalton, or to the short summary in Volume III of the work cited on page 1.

PARA. 4.

Early
Licenses.

4. Procedure in India before 1903.—In India the Local Government has practically exercised the double function of Electricity Commissioners and Parliament in such local matters as those under discussion, through its executive officers and its Legislative Councils respectively. Procedure on the comparatively simple lines of the English license was apparently aimed at in Bengal, although the provisions of such licenses were framed with a view to their ultimately having the effect of Special Orders. One of the most important questions to be settled was naturally the currency of a license, and here, owing to the mistaken analogy of the English license, it was at first proposed to limit this to seven years. Eventually twenty-one years was decided on, the license being then terminable, but renewable with the consent of the local authority and upon such terms and conditions as the Local Government might determine.

Several licenses were successively granted in 1896 and the following years to one and the same company for various areas of supply in Calcutta. These licenses were lengthy and involved documents, each extending to 78 clauses, based on the antiquated model form of British Provisional Order of 1889. As they were only licenses, not confirmed by legislation, a large portion of each document was of doubtful validity, as affecting third parties.

The Calcutta Electric Lighting License, 1896, as originally granted, was to some extent modified as time went on, and subsequent licenses, extending the area of supply, were

made identical in form and due to expire on the same date. It was soon found, however, that the period of 21 years, though accepted in this case in conjunction with generous terms of purchase, was not long enough to attract capital for other undertakings, and, as it was desired to encourage such enterprises, Government was willing to extend the currency of the licenses to 42 years. It was not possible to do this under the Calcutta Electric Lighting Act, 1895, and after much negotiation the amendment of that Act was practically decided on. The passing of the Indian Electricity Act, 1903, rendered this unnecessary, however, and the Calcutta licenses were revoked by consent, new licenses being granted under the new Act.

PARA. 4.

We must complete the survey of the subsidiary legislation under the old Acts by noticing the rules issued during their currency. Under the powers conferred by Act XIII of 1887 the then existing "Board of Trade regulations for securing the safety of the public" were adopted as rules, and they were amended from time to time after similar action by the Board. Rules for the protection of the Telegraphs were added to these also. Under the Calcutta Electric Lighting Act, 1895, these same regulations of the Board of Trade were adopted, with the addition of those for "ensuring a proper and sufficient supply of electrical energy." After a time it became apparent that more or less drastic pruning would be required before these British rules could be considered suitable for India, and the upshot of the matter was that the Government of India decided to refer the question to an advisory committee. This was in the year 1900, and the procedure then first adopted has been followed on several subsequent occasions; it is likely to be continued in future in the form of an "Advisory Board" constituted under the present act.

Rules under
the old Acts

5. Origin and Defects of the Indian Electricity Act, 1903.—When it was found that an amending Bill must be brought in in Bengal, critical examination showed the existing Act to be in urgent need of entire revision. About this time a British firm interested in the electrical industry in India submitted a draft of a general Electricity Bill to the Government of India, intended to supplement Act XIII of 1887, as to the matters left untouched by it, and to render unnecessary or superfluous both the Bengal Acts and any similar local enactments. It then became known that

PARA. 5.

Local
measures
suggested.

PARA. 5.

several other Local Governments either had actually begun, or were about to begin, to frame Local Bills with the same object in view. When consulted they were almost unanimous in preferring that the Government of India should undertake the task and pass a comprehensive measure for all India. The original draft was submitted to all local Administrations for criticism, and it received somewhat severe handling, especially in Bombay and, at the hands of the Author, in Bengal. The Government of India then took the matter in hand and passed the Indian Electricity Act, 1903.

General Act
decided
upon.

In point of simplicity there can be no doubt that the Indian Act of 1903 was a great improvement on its English models, since the lapse of over 20 years had shown up many of the faults and failings of the latter due to the timidity of the Legislature of that time when face to face with a subject most dimly understood. Many of the difficulties and inconsistencies of these Acts and of their Anglo-Indian offspring were grappled with and at least greatly reduced. Considerable assistance was received from the recommendations of two Joint Select Committees of both Houses of Parliament which reported on the subject so long ago as 1893 * (Lord Cross' Committee) and 1898.† In the end some of the provisions of the Indian Act of 1903 have found their way into British legislation of much later date.

The framers of the Indian Electricity Act, 1903, were not unnaturally handicapped greatly by lack of practical experience of what was needed to meet local conditions, and all they could do was to adapt, by the light of nature and common sense, so much of the English Statutes as seemed necessary to give effect to the object in view. The difficulties of the task, and the want of experience in meeting them, were so great that it became a serious question whether the Bill drafted and introduced into the Legislative Council should not be abandoned and legislation postponed for a time. In the end it was decided to proceed with the Bill, but it was foreseen at the outset that amending legislation would be called for in the near future. The author made this clear in the Introduction to his Commentary on the Act in question.‡

* Report on "Electric Power (Protective Clauses)."

† Report on "Electrical Energy (Generating Stations and Supply)"

‡ The Indian Electricity Act, 1903, J. W. Meares; Thacker, Spink & Co., Calcutta (out of print).

Before proceeding to consider the general arrangement of the Act of 1910 it is desirable to give a résumé of the reasons which led to its repeal and re-enactment, and to show how such far-reaching changes have eventually resulted from such comparatively small beginnings.

PARA. 5.
—
Defects in
the Act of
1903.

When a question of the construction to be placed on any words in an Act is taken into Court it is not infrequently found that the interpretation is at variance with the intention of the Legislature. There was very little litigation in connection with the Act we are discussing, but in a good many instances a point of law was referred by Government to the Advocate General, whose opinion is accepted in such matters until upset by a Court of Law.

One such point arose out of an application by a company for a license to supply electrical energy generally and also "in bulk to authorized distributors." The draft license, being the first of its kind, was referred to the Advocate General, Bengal, for his opinion, and he held that such a license was outside the scope of the Act and could not be granted. This "opinion" came as a surprise to everyone concerned and was the immediate cause that led to the revision of the Act; but the Government of India was aware that other defects and difficulties of varying magnitude had been encountered since the Act had become law, and it resolved in 1907 to appoint a "Committee of Amendment" to examine the Act, and report on the changes required. The Committee, under the direction of the late Sir (then Mr.) H. W. C. Carnduff, C.I.E., I.C.S., as President, went exhaustively into the subject, with the result that many amendments were recommended, including such as were necessary to enable these "bulk supply" schemes—by whatever name they may be called—to be duly authorized.

Difficulties
as to supply
in bulk.

Dual control, with all the delays and difficulties inseparable therefrom, had also rendered some change imperative. It was originally intended that the Act of 1903 should be administered by Local Governments, with whom rested the power to grant licenses; but as it was realized from the beginning that a certain measure of uniformity was desirable, the authority, or the previous sanction of the Governor General in Council, had to be invoked in some important matters—with the unforeseen result that nearly every license applied for had to be submitted to the Government of India on one or other of these reserved questions. Furthermore, it was reported that various licenses actually granted were

Dual contro

PARA. 5.

ill-drawn and irregular, if not directly in contravention of the law.

The cantonment difficulty.

The most complicated case was that of cantonments, dealt with in section 40 of the Act of 1903 in the following words :—

The powers and duties of the Local Government under Part II shall, when the energy is to be supplied within the limits of any cantonment or of any fortress, arsenal, factory, dockyard, or camp or of any building or place in the occupation of Government for naval or military purposes, be exercised and performed by the Governor General in Council.

Under this provision applications were made to the Governor General in Council for cantonment licenses in various cities where licenses had already been granted, or were under consideration, for the Civil Station. The places, individual buildings as often as not, covered by the section quoted were found to be dotted about promiscuously all over the map, and all these had to be excluded from the license granted by the Local Government. The complications which must arise in such a case are so obvious that the point need not be laboured ; and it is doubtful if even a single application for a cantonment license was made in strict conformity with the law. The provision in question finds no place in the present Act, but the matter is dealt with on simpler lines in section 3 (2) (a) (ii).

Other changes suggested.

A number of minor changes were also suggested by the Committee either to meet difficulties that had arisen or to forestall others that were foreseen. Among the most important of these may be mentioned the power to amend a license after granting it, simplification of the purchase clauses and provision for omitting them altogether when desirable, modification of the rigid prohibition against supply outside the authorized area in certain specified cases, and the application of the Act both to railways and to the Crown as regards certain sections.

General rearrangement of sections.

Owing to these and a large number of minor amendments and verbal alterations being found necessary or convenient, either by the Committee or subsequently, it was ultimately decided to repeal and re-enact the Act rather than to pass an amending Bill. When this conclusion was arrived at, and it became evident that the interpolated clauses must upset the original numbering of the sections, it was decided to completely rearrange some parts of the Act in more natural sequence. The early sections, however, with which licensees

of date prior to the passing of the Indian Electricity Act, 1910, are mainly concerned, are in their original order up to, and including, section 16. PARA. 5.
—

6. Defects in the Indian Electricity Act, 1910. — No legislative enactment is ever free from defects, though in most countries the public have to wait long before these are rectified. Ten years' experience of the Indian Electricity Act, 1910, proved it to be a progressive rather than a restrictive measure. Of the various modifications introduced at a later date, by the enactments enumerated in the following paragraph, it is only necessary to refer to a few of the technical ones; the reasons for making the changes are set forth in the "Statement of Objects and Reasons" and the "Notes on Clauses" of the Bill of 1921, at the end of paragraph 7 of this Introduction. PARA. 6.
—

The Electric Supply and Traction Federation of India was formed some years ago to promote the interests of licensees, and, while the larger electrical undertakings such as the Calcutta Electric Supply Corporation and the various Tata Hydro-electric Companies did not belong to it, it represented the smaller undertakings effectively. The Federation repeatedly girded at the Indian Electricity Act as the *fons et origo mali*; but its complaints have been very fully investigated at successive joint conferences with the Government electrical officers and have almost invariably been found to be due to some other cause than the Act. Nevertheless, some defects were shown to exist, and the amendments introduced to sections 18, 20, 21, 23, 24 and 44 are partly due to the representations of, and to the discussion with this (now defunct) body. The Electric
Supply and
Traction
Federation.

The British Indian Electric Committee, having its headquarters in London, and looking after the interests of companies with headquarters there, also gave valuable criticism and advice to the Government regarding certain sections in particular and the amending Bill as a whole. A few changes are due to provisions which were tentative and have not been workable; while the administration of the Act of 1910 in its original form also brought out some minor faults. The British
Indian
Electric
Committee.

CHAPTER II.

THE INDIAN ELECTRICITY ACT, 1910,

AS MODIFIED BY THE INDIAN ELECTRICITY (AMENDMENT)
ACT, 1922, AND OTHER ENACTMENTS.

PARA. 7.

7. **General Arrangement of the Act.**—Leaving history, let us now turn to the law as it stands and consider the general arrangement of the Act.

The Indian Electricity Act, 1910 (Act IX of 1910), is “*An Act to amend the Law relating to the Supply and Use of Electrical Energy*” and it received the assent of the Governor General on the 18th March, 1910; see *Gazette of India*, March 19th, 1910. It has since been amended, as regards a clerical error in the Schedule, by the Repealing and Amending Act, 1914 (X of 1914); as regards matters dealt with by the Reforms, by the Devolution Act, 1920 (XXXVIII of 1920); and generally by the Indian Electricity (Amendment) Act, 1922 (I of 1922). The Indian Electricity Act, 1923 (XL of 1923), added a new section, numbered 29A, and the Repealing and Amending Act, 1925 (XXXVII of 1925), again altered section 3 (2) (a) (ii). The principal Act consists of four parts aggregating 60 sections (two new sections having been interpolated in 1922 and 1923) together with a Schedule (also including one new clause added in 1922) of 18 clauses. The Part or Chapter headings and sub-headings are as follows:—

PART I.—Preliminary . . . sections 1 and 2.

PART II.—Supply of energy—

Licenses . . . sections 3 to 11.

Works . . . sections 12 to 19.

Supply . . . sections 19A to 27.

PART III.—Supply, transmission and
use of energy by non-licensees . sections 28 to 30.

PART IV.—General—

Protective clauses . . . sections 31 to 34.

Administration and rules . . . sections 35 to 38.

Criminal offences and procedure . sections 39 to 50.

Supplementary . . . sections 51 to 58.

THE SCHEDULE.—Provisions to be deemed to be incorporated with, and to form part of, every license granted under Part II, so far as not added to, varied or excepted by the license—

PARA. 7.

<i>Security and accounts</i>	. . .	clauses I to III.
<i>Compulsory works and supply</i>	. . .	clauses IV to VIII.
<i>Supply by bulk licensees</i>	. . .	clause IX.
<i>Charges</i>	clauses X to XII.
<i>Testing and inspection</i>	. . .	clauses XIII to XV.
<i>Plans</i>	clause XVI.
<i>Additional notices of certain works</i>		clause XVII.

Since misunderstandings have sometimes arisen regarding the significance of the marginal headings to sections of the Act or to rules made under the Act it may be stated that these are inserted for convenience of reference only, and form no part of the Act or rule at all, though inserted by the legislature. In deciding on the proper interpretation of a section or rule, the Court might perhaps look at the margin for evidence of intention, but it would seldom give any useful guidance. The same remarks apply to Chapter headings and to cross-headings such as abound in this Act and in the rules under it in Appendix I to this book; they merely serve to group the substantive matter in a convenient manner.

Marginal headings, etc.

Part I has but two sections, the first giving the short title, extent and commencement of the Act, while the second contains the definitions. The latter, alphabetically arranged, are drawn from many sources, and little that is new will be found. The text of the Act, with notes on the clauses, follows these introductory chapters; and the reader is referred there for further information regarding this Part.

Part I.

Part II expounds the law as regards undertakings work- ing under license. A detailed discussion of the matters dealt with in this Part, and in the subsidiary clauses of the Schedule, will be found in Chapter III, paragraphs 8 to 19, of this Introduction; the notes on clauses in the text should also be consulted.

Part II.

Part III opens with a section prohibiting non-licensees from undertaking the business of supplying energy without sanction, which may be given conditionally. This is followed by a section enabling power to be conferred on non-licensees to break up streets. The last section in this Part enacts that all persons transmitting or using energy in streets, or in public places, factories or mines shall give notice of their

Part III.

PARA. 7. intention and shall be subject to the rules and to Part IV of the Act. This Part is discussed more fully in Chapter IV of this Introduction, and notes are also added on the clauses in the text of the Act.

Part IV. Part IV of the Act contains provisions applicable alike to all persons who are affected either by Part II or Part III, *i.e. mutatis mutandis* to licensees and their consumers, persons (including the Crown) generating, transmitting or using energy in the specified places, and the public generally; together with a number of general provisions to facilitate the smooth working of the Act. For detailed consideration of this Part the reader is referred to Chapter V, paragraphs 22 to 28, of this Introduction and to the notes on the clauses themselves in the text.

The Schedule. The Schedule, which is more or less supplementary to Part II, is considered in detail with that part in the following pages. It consists of a number of clauses generally binding on all licensees, but subject to modification in each individual case if good reason can be shown for it. Notes on clauses will be found in the text.

The Indian Electricity Rules. The Indian Electricity Rules made under the Act are printed in the Appendix, preceded by a tabular statement of contents to which the reader's attention is directed. The rules have the force of law "as if enacted in this Act," but provision is made for relaxing certain of them where necessary. The definitions in the Act apply to the terms defined where they are used in the rules. The explanatory notes in the present edition have been greatly extended, as it has been found that many of the rules, though apparently quite plain in their meaning, have been both misunderstood and wrongly applied or have not been enforced when they should have been—on consumers, for example, who own defective installations and thereby cause accidents.

Statement of Objects and Reasons, 1910. The "Statement of Objects and Reasons" issued with the Indian Electricity Bill, 1910, shows the general intention of the Legislature at that time. During its course through Select Committee and Council considerable modifications were introduced, and the section numbers were in some instances changed. The context, however, will be a sufficient guide to the reader, but the corresponding section numbers in the Act are also given in brackets, where they are altered. Where provisions, foreshadowed in the "Notes on Clauses" which follow the "Statement of Objects and Reasons," were subsequently omitted, the notes on them have also been omitted and shown by * * *

STATEMENT OF OBJECTS AND REASONS.

PARA. 7.

[INDIAN ELECTRICITY ACT, 1910.]

When the Indian Electricity Act, 1903, was passed it was clearly recognized to be a somewhat tentative measure, and it was anticipated that amending legislation would be called for at an early date. Having regard to the experience gained in the practical working of the Act, the Government of India in 1907 came to the conclusion that the time had arrived for undertaking this amending legislation, and they referred various difficulties which had arisen in its working to a Committee on which electro-technical and commercial interests were represented.

2. The Act as at present framed vests its administration in Local Governments with whom rests the power to grant licenses; but the authority or the previous sanction of the Governor General in Council is required in regard to so many matters that the practical result has been a dual administration. In the case of cantonments and similar "places in the occupation of Government for naval or military purposes" the administration of the Act is by section 40 * placed in the hands of the Governor General in Council, but these places frequently are situated within larger areas, in respect to which the Local Government is empowered to grant licenses, with the result that separate, and not necessarily consistent, licenses have been granted by the Governor General in Council and the Local Government, respectively, to the same licensee, for the same purpose, in one and the same place. The practical effect of the present system has been delay, as it has hitherto been virtually impossible for a company to obtain a license under two or three years. Delays of this nature are obviously most detrimental to the attraction of capital for the development of the resources of the country as the financial position may, and in fact frequently does, change completely between the date of the application and the granting of the license.

3. Under the Bill as now drafted the general administration of the Act and [subject to the control of the Governor General in Council] † the granting of all licenses, is left in the hands of the Local Government. The rule-making power [and the delegation of the powers of the Telegraph authority to licensees] ‡ are reserved to the Governor General in Council.

4. Among the more important modifications in the Bill are the following :—

- (i) The existing provision making licenses compulsory has been taken out, the question of supply to the public without license being otherwise dealt with. It is by no means certain that licenses are either necessary or desirable in the case of industrial companies of certain classes.
- (ii) Provision is made for the grant of licenses for "bulk supply," that is to say, to meet cases where the applicant company proposes to generate energy and supply it in large quantities to distributors, who would retail it under a separate license to small consumers.
- (iii) The amendment of licenses has been provided for. At present it is necessary to revoke a license and grant a fresh one in order to effect this object.
- (iv) The question of compulsory purchase has been dealt with, in regard both to the splitting up of undertakings and to those cases where purchase may be impracticable. The Act provides for the modification, but not for the omission from a license, of the purchase clauses. But these clauses, conceived as they are in the interests of the local authority

* Of the Act of 1903.

† This "control" was repealed in 1922.

‡ Conferred on the Local Government, *ibid.*

PARA. 7.

concerned in a small area, are entirely out of place, and in Great Britain are regularly omitted, in the case of undertakings covering large areas in which various local authorities intervene. It is proposed therefore to modify the provision.

- (v) Many difficulties have arisen owing to the hard and fast limits of the area of supply over which a license operates, consumers just outside the boundary being debarred from participation in the benefits conferred by the public supply. A new section is proposed to deal with the matter and remove obstacles which are likely to impose quite unnecessary hardships on individuals.
- (vi) It is proposed to amend the provisions of Part III of the Act so as to make them applicable to mines and binding on the Crown. As regards railways and tramways, the proviso to sub-section (1) of section 3* in Part II and the first proviso to sub-section (1) of section 31* in Part III of the Act as it stands lay it down that nothing in these Parts respectively relating to the supply or use of energy shall apply to any railway or tramway subject to the provisions of the Indian Railways Act of 1890. The extent to which it is proposed to modify the latter of these provisions is explained in the *Notes on Clauses* (clause 30) while it is proposed, as already mentioned, to repeal the former.
- (vii) A slight amendment of the Land Acquisition Act, 1894, has been proposed with a view to facilitating its application to electrical works.

5. The examination of the provisions of the Act has brought to light many minor defects of substance or arrangement which it is desirable to correct, and the opportunity has therefore been taken to repeal and re-enact the Act with the necessary modifications. The more important of these are explained in the *Notes on Clauses* below, and a Table showing how the various sections of the Act have been dealt with in the Bill is appended.

The 27th July, 1909.

Notes on Clauses—Bill of 1910.

Title and preamble.—The reference to “lighting and other purposes” has been omitted, as lighting is no longer the chief application of electricity.

PART I.

Clause 2 (b), (e), (i), (j) and (l)—“Area of supply.”—As it is proposed in clause 28 to provide for the supply of energy in special cases outside the ordinary “area of supply” of a licensee, i.e. outside the area fixed by his license, it becomes necessary to limit this expression to the latter area. Certain modifications have been suggested in the definitions of “distributing main,” “main” and “service line,” in order to make them more accurate. “Prescribed” has been defined.

PART II.

Clause 3 (1).—Words have been added to meet the case of the area of supply being intersected or interrupted by an intervening area not included in it. As areas of supply under the Bill may comprise very extensive areas indeed, not improbably covering parts of more than one Province, the simple term “area” has been substituted here and elsewhere in the Bill for the expression “local area” which is liable to cause misconception.

Clause 3 (2) (a).—Two provisions have been added, the first to prevent delay in

* Of the Act of 1903.

dealing with applications for licenses and the second to ensure that there is no objection on the part of the Commander-in-Chief where applications relate to cantonments or other places such as are mentioned in section 40 of the Act.

Clause 3 (2) (f).—A proviso has been added to this sub-clause barring the application of certain specified clauses of the Schedule in the case of all licenses granted with reference to the special provisions of the new clause IX of the Schedule, as it is thought desirable that the Bill should show clearly the alternative nature of these provisions.

Clause 3 (3).—* * *

Clause 4 (1).—The compulsory revocation of a license as to a part only of the area of supply might entail very great hardship on licensees, and the clause has been altered in this respect. Corresponding changes have been made in clauses 5 and 7 as to purchase. In all such cases of compulsory revocation or purchase the Government of India think that the undertaking should be dealt with as a whole, either by the local authority, if the area of supply is entirely within its jurisdiction, or by the Government in other cases.

Clause 4 (3).—This clause which reproduces section 4 (2) (g) of the Act now provides for the alteration of the terms and conditions of a license. The need for this power has already been felt, and it was suggested when the Act of 1903 was under discussion.

Clause 5.—In addition to the change explained under clause 4 (1), this clause has been modified so as not to apply to revocation by consent under clause 4 (3).

Clause 6.—It is not in the interest of the ratepayers or the consumers that a municipal undertaking should cease to exist on revocation for default, and the first sub-clause, which is new, provides for the purchase of the same if a buyer can be found. Failing that, the existing provisions are re-enacted in sub-clause (2). Both sub-clauses are limited to the same case as clause 5 explained above.

Clause 7.—The alteration made in this clause has been explained under clause 4 (1), *supra*.

Clause 9.—A proviso has been added to make the intention of the existing clause in the Act clear as regards bulk supply.

Clause 10.—Provision is here made for annulling the purchase clauses and inserting other conditions in lieu thereof. Experience has shown that the power of varying the conditions given by the existing Act was not sufficient in all cases.

Clause 11.—There may arise cases in which the liability to render accounts might well be dispensed with. Provision has been made accordingly.

Clause 13 (i) (f) is new and it makes special provision for notice to the repairing authority or owner in the case of service lines.

Clause 15 (3).—The question of the mechanical contact of electric supply lines with the pipes of other authorized persons is distinct from that of using these pipes as conductors. This latter point has therefore now been included in clause 34, and a reference has here been inserted to that clause.

Clause 17 (1).—The provisions of this clause as to notice to the Telegraph authority have been revised.

Clause 17 (2) is new and corresponds with clause 13 (1) (f) as regards the Telegraph authority.

Clause 23.—* * * In sub-clause (2) the opening lines relating to lighting purposes, which are no longer necessary, have been omitted.

Clause 26.—* * *

Clause 27 (section 26).—The provisions as to the furnishing of "duly certified" meters have been a dead letter. It is proposed therefore to refer to "correct" meters and to explain when a meter is deemed to be "correct."

PARA. 7.

Clause 28 (section 27).—This clause is new and provides for the supply of energy in special cases outside the area of supply defined in the licenses. The need of such a provision has been felt.

Clause 29 (section 28).—Section 3 of the Act, which prohibits the supply of energy for certain purposes without a license, has been omitted from the Bill and in its place has been substituted this clause, which requires the sanction of the Local Government to be obtained before any person, not being a licensee, who supplies energy to the public or to any licensee, opens or breaks up any streets, railways or tramways. The practical result of this provision will be that, though a person supplying energy to the public will not, as at present, be legally bound to take out a license, it will not be lawful for him to execute any works in connection with such supply on any public street, railway or tramway unless he either has a license, or obtains the sanction of the Local Government and conforms to the conditions prescribed by the Local Government under this clause.

PART III.

Clause 30.—(a) The limitation of this Part to the use of energy not supplied under Part II has been omitted as it appeared to go too far. On the other hand, power has been taken to exempt from this Part, when the circumstances are such as to warrant this course, persons using energy so supplied.

(b) The language of the Part has been slightly modified so as to make it clear that it deals with the transmission as well as the use of energy; for which the rules under Part IV, which must be complied with in cases falling under this Part, already provide.

(c) Express provision has been made for the case of mines, although most mines are "places within which one hundred or more persons are likely ordinarily to be assembled." Their specific inclusion in the Bill is rendered desirable owing to the fact that special rules are needed to meet the peculiar conditions existing in mines.

(d) For the total exemption of railways and tramways subject to the Indian Railways Act, 1890, conferred by the first proviso in this Part of the Act, a partial exemption, limited to energy used in connection with traction, lighting and ventilation of rolling-stock has been substituted, as these matters can in the opinion of the Government of India be sufficiently controlled under the provisions of the Indian Railways Act. But installations in railway stations or in railway or tramway workshops seem to require regulation under this Part as much as the other places specified in the clause.

(e) Lastly, it has been thought desirable, following the precedents of the Indian Factories Act, 1881, and the Indian Mines Act, 1901, to declare expressly that the provisions of this Part are binding on the Crown.

PART IV.

Clauses 31 to 34.—These clauses are at present in Part II of the Act, but it seems to Government that they should apply to non-licensees as well as to licensees. They have been amended so as to make them cover also persons generating, transmitting or using energy under Part III. Clause 34 has been re-drafted and made more definite: no connection of circuits with earth should be allowed unless permitted by rules under the Act or specifically sanctioned in each individual case.

Clause 35.—The insertion of an express provision for the payment of fees to members of Advisory Boards in the performance of their duties has been considered desirable. The clause has also been drafted so as to empower the Governor General in Council or the Local Government to regulate the duties and procedure of Boards by executive orders instead of by rules as at present.

Clause 36 is new, and it empowers the Governor General in Council to appoint . . . Electric Inspectors and Local Governments to appoint provincial Electric Inspectors. The practical working of the measure is left to a large extent to the operation of rules, the enforcement of which is the chief duty of Electrical Inspectors.

Clause 37.—This clause invests the Governor General in Council with the sole power of making rules.* The necessity for continuing the rule-making power of Local Governments has not been proved, and no such rules have hitherto in fact been made. Further, the change is believed to be in the interests of the commercial community, who desire to have as far as possible uniform rules throughout British India, a result which can only be secured if all rules are made by the same authority. The only alterations of any importance made in this clause are :—

- (1) the providing expressly for rules dealing with the *transmission* of energy, though this matter is already covered by the general language of the first sub-section and has moreover been dealt with in the existing rules, and
- (2) the increase of the penalty of Rs. 100 which may at present be prescribed for breach of a rule, to Rs. 300, the present penalty being considered by the Government to be inadequate in cases where a breach may endanger life.

Clauses 39 to 49.—The present penal section of the Act is inconveniently long, and has therefore been split up into these separate clauses in the Bill. Clause 41, however, is new, providing a penalty for the breach of the new clause 29. Clause 42 (b) is also new and makes necessary provision for penalising inadequate arrangements on the part of licensees. This provision takes the place of section 39 (3) (b) of the Act † penalising excessive variations of pressure which has been omitted because the matter can and should in India, as in England, be dealt with by rule.

Clause 50.—This clause, based on section 23 of the Indian Mines Act, 1901, has been introduced to prevent vexatious prosecutions.

Clause 51.—The powers, which the Telegraph authority possesses for placing lines and posts on private property, are very wide, and the Government of India think it desirable that express power should be taken to impose conditions when these powers are delegated. The necessary addition has accordingly been made in the clause.

Clause 55 is new. It closely follows section 25 of the Indian Railways Act, 1890, and empowers the Local Government to delegate to Electric Inspectors certain functions under the proposed Act which relate to technical matters.

Clause 57.—The modification proposed by sub-clause (1) in sections 40 (1) (f) and 41 (5) of the Land Acquisition Act, 1894, are intended to remove the obstacle which these provisions now present to the acquisition of land under that Act by companies formed for the purposes of electrical undertakings. At present these clauses respectively require the company to show to the satisfaction of the Local Government that *the work*, for the construction of which the land is to be acquired, is such as is likely to prove useful to the public and to provide in the agreement, into which they have to enter with the Secretary of State, for the terms on which the public shall be entitled to use *the work*, requirements with which it is obviously impossible for such companies to comply. It is therefore proposed to alter these provisions so as to give such companies the benefit of the Act if they can show that *the energy supplied* by means of the proposed work will prove useful to the public and that the public will be entitled to use *such energy* on certain terms.

* But see comments on Rule 40A in paragraph 26.

† Of 1903.

PARA. 7.

The modification in the same Act provided for by sub-clause (2) follows the lines of section 7 (3) of the Indian Tramways Act, 1886, and brings licensees, who may not be companies, within the scope of the provisions of the Land Acquisition Act, 1894.

Clause 58.—This clause, which repeals the existing Act, specially continues licenses granted under that Act. Sub-clause (2) saves the existing rights of persons having licenses or agreements of date prior to the commencement of the Act of 1903, but, subject to such saving, the holders of such licenses are to be deemed to be licensees under the new Act. Words have been added to bring all such persons within the purview of the rules, so far as these rules are not inconsistent with the existing licenses and agreements. This latter provision is taken from rule 102 of the rules made under the present Act.

The Schedule.

Clause V of the Schedule (of the 1903 Act) has been omitted, the matter being fully dealt with by rules under section 33 (2) (g) of the Act, corresponding to clause 37 (2) (g) of the Bill.

Clause IV.—Clause VI of the Schedule to the Act (of 1903) has proved unsatisfactory in practice and has been recast as clause IV of the Schedule to the Bill.

Clauses V, VI and VII.—The position of the original clauses VIII and IX has been altered to bring them before clause VII. These three clauses are now V, VI and VII of the Schedule to the Bill, respectively. Clause VI lays down the ordinary procedure for obtaining a supply of energy where the licensee's distributing mains are within one hundred yards of the applicant's premises. Clause VII relates to special cases which do not fall within the scope of clause VI, and it has been re-drafted to make this point clear. In clause VI (2) of the Bill the words "or as to any alleged excess or defect in the pressure or quantity of the energy supplied" have been omitted because the matter should be dealt with by rules under clause 37 (2) (e), a penalty being provided in clause 37 (3). The existing rules deal fully with the matter.

Clause IX is new and of importance. Its provisions are derived from special Acts (see, e.g., the Scottish Central Power Act, 1903, sections 42, 45 and 55) which have been passed in Great Britain for companies supplying power on a wholesale scale over large areas to other licensees and to large power users. Though the term "supply in bulk" which is used in those Acts has not been reproduced in the Bill, the effect of the clause does not differ materially from that of the Statutes referred to. The note on clause 3 (2) (f), *supra*, shows that, in cases coming under this clause, certain other clauses of the Schedule will not apply. The corresponding clauses of the Schedule to the Electric Lighting Clauses Act, 1899 (62 & 63 Vict., c. 19), are similarly excluded from incorporation in the British Power Acts above referred to.

Statement of
Objects and
Reasons,
1921.

The "Statement of Objects and Reasons" and the "Notes on Clauses" of the Indian Electricity (Amendment) Bill, 1921, now follow; from this will be seen the genesis of the alterations made by the Act of 1922. The Bill was introduced in the Legislative Assembly by Sir Thomas Holland, K.C.S.I., K.C.I.E., on the 16th March, 1921.

STATEMENT OF OBJECTS AND REASONS.

[INDIAN ELECTRICITY (AMENDMENT) ACT, 1922.]

The first general Indian Act regulating the use of electrical energy was passed in 1903 (Act III of 1903), and after seven years' experience of its working it was

replaced by the Indian Electricity Act of 1910 (Act IX of 1910). This measure has on the whole proved satisfactory; but in recent years the extension of the use of electricity supplied both by municipalities and by public utility companies has brought out some defects in details which it is now sought to rectify. It is the aim of the present amending Bill to correct provisions that have proved discouraging to those who invest their money in electrical undertakings, while the legitimate interests of the consumer have been safeguarded. These questions were fully discussed at several conferences of the electrical specialist officers of Government. Similarly, the views of the suppliers have been brought to the notice of Government from time to time. A draft of the amendments which were considered necessary was circulated to all Local Governments and Administrations, as well as to associations representing the industry. The replies received show that the proposed amendments have been on the whole well received. The objections and criticisms have been carefully considered and certain additions and modifications have consequently been incorporated in the Bill.

2. The amendments in the Bill are mostly in matters of detail, as shown in the Notes on Clauses which follow, and a brief summary only of the more important amendments is given below:—

- (1) Sections 20, 24 and 44 have been amended to meet the difficulties encountered by licensees in carrying out their obligations to supply all consumers where a few consumers either evade payment of their bills owing to the defective wording of the Act, or obtain their current by dishonest means.
- (2) Section 21 receives an addition enabling bye-laws, now often issued by licensees in accordance with long-standing custom but without legal sanction, to be regularly made with the previous approval of Government.
- (3) Section 23, dealing with methods of charging, has had the substantive part of clause X of the Schedule added to it, as it is out of place in a Schedule that is capable of modification in any particular license.
- (4) A new sub-section has been added to section 37, as Government consider that their own undertakings in cantonments or elsewhere should be bound by the same rules for the protection of life and property as govern other undertakings.
- (5) A change is made in the direction of decentralization, by substituting the Local Government for the Governor General in Council in section 51.
- (6) Clauses VI, VII and VIII of the Schedule have been amended, in the interests of the consumer, by broadening the basis on which a supply of electrical energy may be requisitioned.

3. All the amendments proposed in the Bill are explained in the Notes on Clauses which follow.

The 18th February, 1921.

*Notes on Clauses—Amending Bill of 1921.**

Clause 2.—There is some uncertainty at present as to what exactly constitutes a “service line.” The amendment makes it clear that a service line connotes a line which serves one consumer only, or a group of consumers on the same premises or on adjoining premises served by a single line.

Clause 3.—This alteration has been incorporated at the request of the military authorities who are responsible for questions of supply in cantonments.

* The clause numbers refer to the amending Bill, not to the sections of the Act amended by them.

Clause 4.—It is considered undesirable to exclude overhead service lines from the operations of sub-section (2) of section 17, as such lines are more liable to affect telegraph lines than underground service lines. The words qualifying "service line" in sub-sections (1) and (2) of section 17 are being deleted in view of the fuller definition of service line given in clause 2 of the Bill.

Clause 5.—The modification is intended to allow of the clearance of trees, etc., or other obstructions which are likely to interrupt or interfere with the working or the accessibility of any aerial line. There is both personal danger to the public and a risk of the supply being cut off when obstructions encroach on existing lines, more especially in the case of long transmission lines. An explanation has been added to section 18 to indicate what the word "tree" signifies.

Clause 6.—The object of this addition is to take power to prescribe in the rules the precise point where the supply of energy by the licensee begins.

Clause 7.—The insertion of the word "meters" in clause (c) of sub-section (i) of section 20 corrects an oversight in the Act of 1910 and brings this clause into line with clause (a). A new sub-section (3) has been inserted because it is considered desirable that the licensee should have power to cut off the supply of current to a consumer who unreasonably prevents the entry of authorized persons to his premises to read the meter and carry out other necessary duties. A similar provision already exists in clause VI of the Schedule.

Clause 8.—The object of the new sub-section (2) to section 21 is to permit licensees to issue bye-laws with the previous approval of the Local Government. At present conditions of supply, amounting practically to bye-laws, are issued without any such sanction in accordance with long-standing custom; and these bye-laws are not always in accordance with the law. The date to be entered in the proviso will be approximately the date on which licensees may be deemed to have had notice of the amendment here proposed.

New sub-section (3) gives the Local Government power to cancel what it has sanctioned, if circumstances alter and make this desirable.

Clause 9.—It is considered necessary that consumers should have the right to demand to be charged by the methods laid down in sub-clauses (a) or (b). It is further desirable that a licensee should be authorized to take into account "load factor" when determining his system of charges. The term "load factor" is well understood in its various technical applications, and it is, therefore, not considered necessary to define it.

Clause 10.—There are various charges connected with the supply of current which are due from a consumer to the licensee other than those for the actual current consumed. It is considered that the proposed alteration in sub-section (1) of section 24 will make the original intention of the Act of 1910 clear. The addition of the proviso to sub-section (2) is proposed, as at present consumers, by appealing to the Electric Inspector, obtain an unnecessarily long period of grace in which to pay their bills, by the end of which their liabilities may be considerable. Commercial opinion considers that the sum in dispute and any further amounts as they accrue should be deposited as a guarantee of good faith. Should the licensee fail to receive payment, the general body of consumers are the ultimate sufferers.

Clause 11.—The omission is proposed as cases arise (as, for example, where premises have electricity installed in them for the first time) in which there has been no previous supply and it is considered that in such cases the Electric Inspector should be left to settle the matter on the basis of equity. The added proviso is considered necessary since it leads to friction when a consumer, without informing

the licensee, refers the question of the accuracy of his meter to the Electric Inspector for decision. PARA. 7.

Clause 12.—The object of the addition is to meet cases where consent is withheld, while it is desirable in the true public interest.

Clause 13.—It is proposed to omit the first proviso under sub-section (1) of section 28 as neither the expense nor the delay involved in obtaining a license would ever, in actual fact, justify action under it and it is considered undesirable to fetter the discretion of Local Governments in the matter.

Clause 14.—The alteration is due to the replacement of the Indian Factories Act, 1881, by the Act of 1911. The addition is proposed with the object of bringing within the scope of this section certain industrial concerns such as tea, coffee and indigo estates which are not at present “factories” within the meaning of the Indian Factories Act, 1911, but in which electrical installations are in operation.

Clause 15.—It is considered that the authority to whom accidents should be reported and the manner in which such reports should be made, should be regulated by general or special directions of the Local Government.

Clause 16.—The addition is proposed with the object of enabling commercial and other interests to be more strongly represented on the Advisory Board when necessary, the Local Government being given full discretion as to its constitution. The omission is consequential on the addition referred to above.

Clause 17.—This addition is proposed as it has been held that an appeal to the Local Government against the decision of its Electric Inspector is, in practice, ineffective as the Electric Inspector is as a rule the adviser of the Local Government in the matter. It is considered that, in important cases, Local Governments will be well advised to refer the matters in dispute to an Advisory Board.

Clause 18.—The first addition is consequential on other amendments proposed. The second addition is proposed as it is considered desirable to make the rules under section 37 (f) or (h) binding on the Crown.

Clause 19.—The change throws the responsibility for the theft of energy on to the “Consumer” as defined in section 2 (c). At present it is necessary, but generally impossible, to prove the actual culprit who made the illegal connection; he is usually only the agent of the offending consumer, who alone benefits by getting his bills fraudulently reduced, to the detriment of the honest consumer. [*This clause was thrown out in Select Committee.*]

Clause 20.—These modifications are proposed as the present penalties have been found inadequate as a deterrent. A fine of Rs. 300, the maximum that can be imposed by the existing section 44, may be readily paid when energy of a much larger monetary value is obtained by irregular means. The penalties, as in all cases, are maxima; the actual fine is a matter for the Court.

Clause 21.—This change is proposed in accordance with the spirit of the recommendations contained in paragraph 212 of the Report on Indian Constitutional Reforms.

Clause 22.—This alteration is proposed as it is anticipated that the administration of the Indian Electricity Act, 1910, will in course of time be transferred from the control of the Public Works Department.

Clause 23.—This addition is made to enable Local Governments to delegate to Electric Inspectors their powers under section 34 (2) in regard to the issue of orders calling on users of electricity to remedy dangerous arrangements or defective lines.

28 THE INDIAN ELECTRICITY (AMENDMENT) ACT, 1922.

PARA. 7. These being purely technical matters, Local Governments will probably be ready to leave the decision in the hands of their technical advisers.

Clause 24.—The alteration is suggested as it is considered that a consumer should be able to obtain a supply of current even though his property may be situated beyond the limit of 100 yards prescribed by this sub-clause, but within the area of supply of the licensee, provided the consumer agrees to the existing conditions contained in this clause. The first addition is consequential on the preceding alteration and the second addition is proposed to limit the period for which supply may be discontinued.

Clause 25.—Clause VII of the Schedule at present regulates procedure for cases not falling within clause VI, but by the amendment of clause VI (1) all applications within the “area of supply” will be dealt with under that clause. In consequence of that amendment the only part of clause VII which will be effective is that shown in the Bill. There is no alteration of substance.

Clause 26.—This amendment is proposed for the same objects and reasons as are noted against clause 24.

Clause 27.—These modifications are consequential on the proposed amendment of section 23 of the Act.

Clause 28.—Objection has been taken to the existing clause XI of the Schedule in that Local Governments have power under section 7 of the Act to purchase an undertaking, and it has been strongly represented by the electrical industry that the power conferred by the first proviso of this clause and that conferred by section 7 of the Act should not be exercised by one and the same authority. It is considered that a compulsory reference to an Advisory Board will meet this objection.

Clause 29.—The new clause XI A is introduced to remove doubt as to whether a minimum charge is leviable in cases where no energy has been used.

Clause 30.—

- (a) It has been found impracticable to show on a map the height of overhead lines which are liable to frequent variations and to alterations, and clause XVI of the Schedule has been altered accordingly.
- (b) The scales laid down in sub-clauses (2) and (3) of clause XVI of the Schedule are impossible for any but small undertakings and are seldom used in practice. It is suggested that it should be left to the Local Government to fix the scale, provided that it is one available in standard maps.

CHAPTER III.

LICENSED UNDERTAKINGS.

PART II OF THE ACT AND THE SCHEDULE,

As amended in 1914, 1920, 1922, 1923 and 1925.

PARA. 8.

8. As to the Grant of Licenses.—In this and the succeeding pages to the end of paragraph 19 the question of licensed undertakings will be discussed in detail, both as regards Part II of the Act and the more flexible provisions

of the Schedule. Part IV of the Act, which applies also to undertakings that require no license, is discussed in paragraphs 22 to 28. Apart from the fact that without statutory powers a company would often be unable to carry out its works, it is clearly desirable for the protection of the public from monopoly that electric supply undertakings, especially those in towns, should in general be licensed. Exceptional cases can be dealt with under sections 28 and 29.

PARA. 8.

Wherever electric supply is to be undertaken, the first step is to ascertain whether it will be necessary to break up streets, railways or tramways, and, if so, whether a license or merely special sanction is to be applied for, bearing in mind that the unauthorized supply of energy carries with it a penalty under section 41. Assuming the former course is decided on we must turn to section 3 (1) of the Act where it will be seen that a license may be granted to any person

Licenses not compulsory.

to supply energy in any specified area, and also to lay down or place electric supply-lines for the conveyance and transmission of energy,—

- (a) where the energy to be supplied is to be generated outside such area, from a generating station situated outside such area to the boundary of such area, or
- (b) where energy is to be conveyed or transmitted from any place in such area to any other place therein, across an intervening area not included therein, across such area.

Sub-section (2) of section 3 lays down the provisions which shall have effect in respect of every license and the grant thereof. The widest latitude is permitted to Government as to what terms and conditions shall be prescribed by a license [clause (d) of sub-section (2)] whilst clause (e) makes it clear that a license is not to have the effect of a monopoly. It is unlikely, however, that competition would be permitted so long as the charges made by the licensee continue to be reasonable and his supply continues to meet all demands that may be made upon it.

No monopoly

The Schedule to the Act is, under clause (f) of the same sub-section, and subject to express addition, variation, or exception, “deemed to be incorporated with and to form part of every license” * just as the Schedule to the Electric Lighting (Clauses) Act, 1899, is part of every Special Order in Great Britain. To meet the case of bulk supply to other licensees under clause IX of the Schedule, a proviso is added to this incorporating clause specifically excluding certain

Inclusion of the Schedule

* See however section 58, note, and para. 37 of this Introduction.

PARA. 8. inapplicable clauses of the Schedule; the exclusion only applies to bulk supply and the clauses remain in force as regards the ordinary supply in a combined undertaking for both purposes under one license. It is clear from the wording of clause IX of the Schedule and from the generality of the wording in section 3 (1) that one license may cover both general supply to the public and also bulk supply to other licensees—see paragraph 9, “Combined undertakings.”

Procedure of applicant.

Form of application.

Form of draft license.

The following statement of procedure will be found useful by an intending applicant for a license. He must first make his application addressed to the Local Government in manner prescribed by rule * and care must be taken that such application is in the form prescribed by such rule and is accompanied by the documents and fee particulars of which are also therein specified. It will be observed that one of the requirements of the rules, which are set forth in Appendix I, is that the application must be accompanied by six copies of the draft license as proposed by the applicant. A prescribed model form of license will be found in Annexure III to the Indian Electricity Rules—*vide* Appendix I—but such form, although it embodies all the particulars required by rule, need not be blindly followed by the intending applicant, and is merely given for his guidance.† The circumstances of each individual case must necessarily vary and the applicant, whilst he must be careful to include all particulars required by rule 11, is not prohibited from providing in the draft license for such matters as seem to him to require special provision. It is for the applicant to prepare the draft in such form as appears to him best to meet his requirements and it is left to Government to decide whether the license shall be granted in that or in a modified form [section 3 (2) (d)]. Within fourteen days from the submission to Government of his application, the applicant must publish notice thereof by public advertisement. The advertisement must embody the particulars required by rule 13 and must be inserted in a local newspaper as prescribed.

For his own good, the author cannot impress too strongly upon an intending applicant the importance of adhering strictly to the rules: otherwise disappointment and delay are bound to follow.

* See Rules Nos. 9 *et seq.* in Appendix I.

† It has been enlarged and modified in a model form issued by the Madras Government.

PARA. 8.

Procedure of
other persons
concerned.

Three months from the date of the first advertisement is allowed to would-be objectors to give notice to Government of their objections; and, if necessary, a local enquiry may be held. After three months have elapsed objections sent in will not be considered [section 3 (2) (a) (i) proviso]. Where the proposed area of supply includes "the whole or any part of any cantonment, fortress, dockyard, or camp or of any building or place in the occupation of the Government for naval or military purposes" the license may not be granted until the Local Government has ascertained that there is no objection to it on the part of the Engineer-in-Chief, Army Headquarters, India [Section 3 (2) (a) (ii), as amended in 1925]. The local authority or any other authority or person may suggest any clauses or other amendments which they desire to have inserted in the license, at any time within three months of the first advertisement, though it is not incumbent on Government either to insert such clauses or to do more than take objections into consideration. In the case of insufficient objections by local authorities Government records in writing the reasons for its opinion and communicates it to the local authority, [section 3 (2) (b)]. Obviously if any person or body has any objection to make, it is not necessary or wise to wait until the cut-and-dried license is about to be granted, but rather to take action when the applicant's advertisement appears. If the local authority themselves are applicants for the license, they must have previously passed a resolution approving the course of action, under section 3 (2) (c).

Procedure of
Government.

At this stage of the proceedings Government, which, it must be remembered, has full discretion as to what provisions shall be embodied in the license—except as regards the one matter dealt with in section 3 (2) (d), clause (ii)—will take the draft license into consideration and will examine the proposed provisions with the aid of its legal and technical advisers. If any radical alterations are considered advisable the draft will usually be sent back to the applicant for further consideration. The draft having been finally settled and agreed to, and the necessary three months having elapsed from the date of the first advertisement, Government is at liberty to grant the license. It will then be gazetted for general information.

Grant of
license.

From the capitalist's point of view the duration of the concession given and the terms of purchase after its expiry are of prime importance. It is a significant fact that one

Duration of
license.

PARA. 8.

of the chief factors which brought about the legislation of 1903 was the discontent arising from the legal inability of the Bengal Government to grant a license for more than 21 years under the Calcutta Electric Lighting Act of 1895, and it is also of some note that, despite the almost unprecedented rate at which the use of energy was taken up under the Calcutta license, no other public supply scheme followed for several years after. The Darjeeling Hydro-electric Municipal Supply * was working for many years before the Act of 1903 was passed. It must not be hastily assumed that in granting a license without a time limit a perpetual concession is given, for, apart from the license being liable to revocation, the undertaking is subject to compulsory purchase after a term of years. This is discussed in paragraphs 9 and 10.

PARA. 9.

The grounds
for revoca-
tion.

9. **Revocation and Amendment of Licenses.**—Sections 4, 5 and 6 deal with the revocation of licenses. The cases in which a license may be revoked in the public interest are specified in section 4 (1) and are as follows, the revocation being limited to the whole area of supply included in the license—

- (a) where the licensee, in the opinion of the Local Government, makes wilful and unreasonably prolonged default in doing anything required of him by or under this Act ;
- (b) where the licensee breaks any of the terms or conditions of his license the breach of which is expressly declared by such license to render it liable to revocation ;
- (c) where the licensee fails, within the period fixed in this behalf by his license or any longer period which the Local Government may substitute therefor by order under sub-section (3), clause (b), and before exercising any of the powers conferred on him thereby in relation to the execution of works,—
 - (i) to show, to the satisfaction of the Local Government, that he is in a position fully and efficiently to discharge the duties and obligations imposed on him by his license, or
 - (ii) to make the deposit or furnish the security required by his license ;
- (d) where the licensee is, in the opinion of the Local Government, unable, by reason of his insolvency, fully and efficiently to discharge the duties and obligations imposed on him by his license.

“ The public
interest.”

Where a concession is granted it is only right that it should be subject to cancellation if the holder does not keep

* This installation was put up by the present author in 1896, and was both the first undertaking for public supply in India and the first public hydro-electric plant there ; the Cauvery installation, which has repeatedly usurped that position, came long afterwards.

to his part of the compact. At the same time it is unlikely that a license would be revoked except for serious or oft-recurring defaults, since "the public interest" is the ground on which the decision is to be arrived at, as stated at the beginning of section 4 (1). But not only is the unsatisfactory licensee liable to the extreme penalty of revocation; even apart from the fines and penalties which may be imposed under sections 37 (3), 42 and 48, an almost equal controlling force exists in the alternative to revocation, whereby the Government may, under section 4 (2), "instead of revoking the license, permit it to remain in force subject to such further terms and conditions as it thinks fit to impose."

PARA. 9.

Section 4, sub-section (3), clause (a) allows the Local Government to revoke a license as to the whole or any part of the area of supply with the consent of the licensee. In the unlikely event of no purchaser being found the provisions of section 8 would apply. Clause (b) of the same sub-section admits of alterations or amendments being made in the terms and conditions of any license, but some of the formalities required in applying for a new license must be complied with—see rules 21 and 22. This facility should prove very useful.

Revocation
by consent.

Amendment
of licenses.

Sections 5 and 6 contain provisions applicable where a license has been revoked under section 4 (1), first in the case of a licensee who is not a local authority and secondly in the case of a licensee who is a local authority.

In the former case, notice of revocation is served upon the licensee by Government and where the whole of the area of supply is included in the area for which a single local authority is constituted upon that local authority also; a date is also fixed by Government on which the revocation is to take effect. Power is given to the local authority, with the consent of Government, to purchase the undertaking upon certain terms, and, where the local authority does not elect to purchase, Government may, if it thinks fit, require the licensee to sell to any other person who may be willing to buy. In the event of no purchase being effected either by the local authority or by a private individual, or where the whole area of supply is not included in the area for which a single local authority is constituted, then an option to purchase is given to Government. It is unlikely, however, that Government would itself wish to carry on the undertaking except perhaps in cantonment

Revocation
where
licensee is
not a local
authority.

PARA. 9.

areas or where exceptional circumstances made it desirable, although Government might purchase in order to hand over the undertaking subsequently to the local authorities. Failing the exercise of an option under this section the undertaking as such ceases to exist. The lands, buildings, works, materials and plant may then be disposed of in such manner as the licensee thinks fit; if he does not exercise this option within six months, Government may cause the works of the licensee to be removed from every street and the streets to be reinstated, and may recover the cost of such removal and reinstatement from the licensee.

The terms of purchase prescribed by section 5 (b) in the cases mentioned above are as follows:—

Purchase in case of revocation, where licensee is not a local authority.

On payment of the value of all lands, buildings, works, materials and plant of the licensee suitable to, and used by him for, the purposes of the undertaking, other than a generating station declared by the license not to form part of the undertaking for the purpose of purchase, such value to be, in case of difference or dispute, determined by arbitration:

Provided that the value of such lands, buildings, works, materials and plant shall be deemed to be their fair market-value at the time of purchase, due regard being had to the nature and condition for the time being of such lands, buildings, works, materials and plant, and to the state of repair thereof, and to the circumstance that they are in such a position as to be ready for immediate working, and to the suitability of the same for the purposes of the undertaking, but without any addition in respect of compulsory purchase or of goodwill or of any profits which may be or might have been made from the undertaking, or of any similar considerations.

These terms are taken almost verbatim from the terms of purchase in force in England where a company's special order is revoked (The Electric Lighting Act, 1888, section 2). They have been followed not because they have any great inherent virtue in them, but because any part left out might be taken to imply an actual alteration of the terms. In the case of revocation for default the holding out of better terms would be simply an inducement to carelessness.

Combined undertakings and revocation.

The words "other than a generating station declared by the license not to form part of the undertaking for the purpose of purchase" were added in 1910 and may prove of great importance. A reference to section 3 (2) (d) will show that while the first sub-clause lays down the general lines on which a license may be given, the second sub-clause gives a specific direction to the Local Government:—

- (ii) save in cases in which under section 10, clause (b), the provisions of sections 5 and 7, or either of them, have been declared not to apply, every such license shall declare whether any generating station to be used in connection with the undertaking shall or shall not form part of the undertaking for the purpose of purchase under section 5 or section 7;

The object of these provisions is to cater for the difficult case of combined general supply and traction undertakings, *i.e.* undertakings supplied with energy from one and the same generating station. Electrical engineers speak of these as combined undertakings, but in the eyes of the law they are separate and distinct. Even if a single local authority, company or person owns both the component parts it is as “promoter” of the tramway and “licensee” of the general supply undertaking, under two separate Acts. As matters stand at present the period after which a local authority may purchase undertakings of either description are very different, as also are the terms and conditions of purchase, and there is a danger of the generating station being considered for the purpose of purchase as belonging to both undertakings. Each case as it arises must be considered on its merits and a decision arrived at—whether the generating station is or is not to form part of the particular undertaking for which legislative sanction is sought at the future date when an option of purchase shall have arisen. No doubt ordinarily the generating station will form part of the undertaking first sanctioned; in that case the second component will be considered as purchasing its supply of energy from an outside source. Where however a license and a tramway order are applied for simultaneously by a single applicant, the Local Government will have to decide the matter after discussion with the applicant and the prospective purchaser. This provision of the Indian Electricity Act renders it obligatory on the Local Government to declare in the license “whether any generating station to be used in connection with the undertaking shall or shall not form part of the undertaking for the purpose of purchase under section 5 or section 7,” but neither the Indian Tramways Act, 1886, nor the Bengal Tramways Act, 1883, contains at present any provision under which a generating station can be excluded (see paragraphs 35 and 36 *infra*). In the Imperial Legislative Council, when the Report of the Select Committee on the Indian Electricity Bill, 1910, was taken into consideration, the late Sir Charles Kesteven introduced the first of the above amendments in the following words:—

“I was a member of the Select Committee which sat upon this Bill and whose Report was so recently presented, and the fact that I am now found moving an amendment may seem to require explanation. As to this I can only say that the point the amendment is intended to meet was discussed and received consideration

PARA. 9.

in Committee, but it was felt that the difficulties attending the proposals then made for dealing with it were such as to outweigh the probable advantages. The time for the deliberation of the Committee was short, the field they had to cover a large one, and the points to be considered and decided many and diverse, and had there been a further opportunity for consideration of this point, I think it probable that the amendment now proposed would have been adopted by the Committee as part of the Bill. All I need say now, however, as to this is that I move the amendment with the permission of the Hon'ble Member in charge of the Bill.

"I will endeavour shortly to explain the point to which the amendment is directed. I am afraid the matter is a technical one and void of general interest, and I will be as brief as I can. It is one which arises only in reference to the powers of purchase given by the Bill, after a fixed time, to local authorities and others, and as regards only the application of these powers to so-called 'combined undertakings.' A 'combined undertaking' may be described as one which includes an undertaking established under license granted in pursuance of the powers of the Electricity Act and also some other undertaking fed by electrical energy from the same generating station; for instance, a tramway established under the Tramways Act. It is obvious that such an undertaking may come into existence in three ways. The case which is, probably, most common is one where a combined undertaking for the supply of electric energy and the working of a tramway is established at one and the same time, the two parts coming into existence contemporaneously. But, obviously, there may also be the case of an electric supply undertaking followed by the addition of a tramway, or the converse case of a tramway followed by an electric supply undertaking. In the two last-mentioned cases, the generating station would almost certainly continue to belong to the portion of the undertaking first established. It would, of course, do so if the provision proposed by this amendment were used to declare that it should do so. In the case first mentioned, it would presumably be for the promoter to agree with Government to which portion of the undertaking the generating station should, for the purpose of compulsory purchase, belong, and this amendment is intended to provide for the carrying of such an agreement into effect, or to assist in so doing. Now, in all these cases, it seems clear that, apart from special provision, the generating station common to both portions of the undertaking may be considered as belonging to each portion taken separately. And the party exercising the option to purchase of either portion would, no doubt, desire to have the generating station included in his purchase. On the other hand, if it were so included, the owner of the combined undertaking would be left with the remaining portion without a generating station from which to feed it with energy. The definition, in both this Bill and the Indian Tramways Act, of the undertakings subject to purchase under them are naturally wide enough to cover the generating station, and probably the scope of either could not be controlled by the other Act, or the fact that the generating station was an essential part of the remaining portion of the undertaking established under that Act. The definition in the Tramways Act is specially wide, as including all moveable and immoveable property of the undertaker, suitable to be by him used for the purpose of the tramway. It may, therefore, be taken as probable that the generating station would, in the absence of some provision to the contrary, fall within the clutch of the purchasing power which, in order of time, first becomes exercisable. Generally speaking, this would probably be that under the Tramways Act as the period after which, under the Act, that power becomes exercisable, in the absence of provision to the contrary, is 21 years, while under this Bill, the time for exercise of the option of purchase of an undertaking licensed under it may extend to 50 years. Under the existing Act it was commonly left at 42 years. It is, therefore, of importance to provide some means of determining, when a combined undertaking comes into existence, to which portion of the undertaking the

generating station is to belong, and this is the object of this amendment. The Bill, as it stands, contains no provision for making an authoritative declaration as to the question under consideration. This may be a matter of great importance to promoters, who may lose their generating station notwithstanding that the portion of the undertaking which is left to them is much the more important and the generating station really ought to be left with it. I am afraid the amendment can hardly be considered as more than an instalment, as it will not meet the requirements of all cases, unless a corresponding provision is adopted as regards tramways. The question of the amendment of the Tramways Act—which was enacted before electric tramways were known and does not provide for their special requirements—is, I understand, under consideration, and as to this point, I can only express a hope that a provision corresponding to the amendment now before the Council will be adopted in it, so that the two Acts may, if this amendment is adopted, mutually provide for the requirements in question. The amendment now before the Council, however, will, in itself, at least enable definite provision to be made for the case of a combined undertaking where it is intended that the generating station shall belong to the tramway undertaking. In such a case, the electric license would declare that the undertaking under the Electricity Act should not include the generating station. And a declaration under the authority of the Act, that it should be included, might assist to protect it from purchase under the Tramways Act, though it does not seem altogether clear that, without such an alteration as I have suggested in the Tramways Act, it would, in itself, operate to exclude it from such purchase. At the lowest estimate of its value, the provision seems to be a step in the right direction, which at any rate can do no harm, and I accordingly recommend it for adoption by the Council."

PARA. 9.
—

In moving the second amendment, namely the insertion of the words "other than a generating station declared by the license not to form part of the undertaking for the purpose of purchase," in sections 5 (b) and 7 (1) Mr. Kesteven said—

"These amendments are purely consequential on those just adopted.

"If the clauses to be amended are looked at, it will be seen that the various portions of the undertaking which are prescribed in them are referred to, not for the purpose of defining the extent of the undertaking to be purchased, but for the purpose of regulating, by reference to the value of such portions, the price to be paid. It has been suggested, in view of the amendment last adopted, that if a declaration were made under it excluding a generating station from an undertaking, the value of the generating station might, nevertheless, be taken into account for the purpose of determining the price and the purchaser obliged to pay the value of a generating station he did not receive. The amendment is only for the purpose of making it clear that this shall not be the case. There can be no doubt that this is the intention, and the meaning which should be given to the Act, and the amendment may be considered as purely consequential and formal."

There are five "combined undertakings" for lighting and traction in India and Burma, at Bombay, Delhi, Cawnpore, Rangoon and Mandalay, while the Madras Tramways Co. has also been absorbed by the Madras Electric Supply Corporation. In all these cases except the last named it has

PARA. 9. — been found almost impossible to separate out the items in the statutory accounts, prepared under section 11 of the Act, between the two components. Government has power under clause III of the Schedule to the Act to insist on separate accounts, but these are not in point of fact kept. When the time of purchase arrives this will probably benefit the companies in question at the expense of the public.

Severance Another departure from the corresponding purchase clause in the Act of 1903 concerns the question of severance when only part of an undertaking is purchased. Owing, however, to the modifications introduced in section 4 (1), whereby compulsory revocation is limited to the whole area of supply, severance has no longer to be reckoned with and no loss can therefore be occasioned by it. Though under section 10, clause (a), the Government can vary the terms and conditions of purchase in any license at the time of granting it, this power is likely to be exercised only in exceptional cases, where the applicant can show clearly that it is indispensable to his proposed undertaking. Where the purchase takes place in consequence of revocation it is, in fact, unlikely that better terms will ever be given; the application of section 10 will no doubt be limited to purchase after a term of years, which is discussed in the next paragraph. The remarks on compulsory purchase of tramway undertakings, in paragraph 35 *infra*, may also be read in this connection.

Conditions where purchase has been effected later revocation.

When a purchase has been effected either by the local authority, or by any person, or by the Local Government, sub-clause (e) of section 5 lays down the conditions that apply, namely:—

- (i) the undertaking shall vest in the purchasers free from any debts, mortgages or similar obligations of the licensee or attaching to the undertaking :

Provided that any such debts, mortgages or similar obligations shall attach to the purchase-money in substitution for the undertaking ; and

- (ii) the revocation of the license shall extend only to the revocation of the rights, powers, authorities, duties and obligations of the licensee from whom the undertaking is purchased, and, save as aforesaid, the license shall remain in full force, and the purchaser shall be deemed to be the licensee :

Provided that where the Local Government elects to purchase under clause (d), the license shall, after purchase, in so far as the Local Government is concerned, cease to have any further operation.

It will be seen that the position of a mortgagee has been made clearer than it was under the repealed Act of 1903. In this connection see also section 9 (2) and the notes thereon. As to the license ceasing to have any further

operation, so far as Government is concerned, where Government has purchased an undertaking, see section 49. PARA. 9.
—

Where the license of a local authority is revoked under section 4 (1), and any person is willing to purchase the undertaking, Government may under section 6 (1), if it thinks fit, require the local authority to sell the undertaking to such person and on such terms as Government thinks just. Where no such purchase is effected the undertaking as such ceases to exist. The lands, buildings, works, materials and plant may then be disposed of in such manner as the local authority thinks fit. If the local authority does not exercise its option in the matter within six months, Government may cause the works of the licensee to be removed from every street and the streets to be reinstated, and may recover the cost of such removal and reinstatement from the licensee. The question of purchase in the case of bulk supply to other licensees is discussed in the latter part of paragraph 10. Revocation
of license
of local
authority.

10. Compulsory Purchase.—We now come to the consideration of the conditions of compulsory purchase otherwise than in consequence of revocation, as dealt with in sections 7 and 10 of the Act. These sections do not apply in the case of local authorities' undertakings. PARA. 10.
—

Under this Act a license is held in perpetuity, subject only to revocation and, in most cases, to compulsory purchase. The option of purchase, where it is a condition of the license, first arises after a period (to be stated in the license) not exceeding fifty years, and subsequently recurs at intervals not exceeding twenty years. "If the whole of the area of supply is included in the area for which a single local authority is constituted" the option of purchase goes first to that local authority. [Section 7 (1).] This will seldom be the case owing to the very inclusive definition of a "local authority" (given at the beginning of paragraph 31 of this Introduction) by the General Clauses Act. Licenses not
subject to
time limit.

Options of
purchase.

Where—

- (a) the local authority does not elect to purchase under sub-section (1), or
- (b) the whole of the area of supply is not included in the area for which a single local authority is constituted, or
- (c) a licensee supplies energy from the same generating station to two or more areas of supply, each controlled by its own local authority, and has been granted a license in respect of each area of supply,

the Local Government shall have the like option upon the like terms and conditions. [Section 7 (2)].

PARA. 10.

Terms of
compulsory
purchase.

If no purchase takes place by either party, the license continues in full force until the next option arises ; and two years' notice must be given to the licensee of election to purchase in any case [sub-section (4)] ; but instead of purchasing, the local authority may, with the consent of the Government, strike a bargain with the licensee as to working the undertaking on terms to be agreed upon [sub-section (5)]. The unlikely contingency of purchase being refused and of the license then being revoked on the application or with the consent of the licensee, is dealt with in section 8.

In the Act of 1903 the terms of compulsory purchase were the same after 42 years as in the case of revocation, i.e. the terms in force in Great Britain, which are discussed in the preceding pages. It was generally felt that these terms were not sufficiently attractive for the encouragement of undertakings in India, and the Author has always held this view. The Calcutta Electric Supply Corporation, which was the pioneer company in India, obtained special terms of purchase in its original license under the Calcutta Electric Lighting Act ; and when that company elected to take out a new license under the Indian Electricity Act, 1903, these special terms were of course incorporated. An option to purchase this undertaking as "a going concern" arose in 1918, but was not exercised. Later companies have been less fortunate, and some undertakings probably owe their initial difficulties to the shyness of capitalists owing to this cause. The terms now embodied in the Act, which may still be varied under section 10 at the time of granting a license, allow for an addition to be given over and above the market value, as a solatium for compulsory purchase and its drawbacks. In various licenses granted under this Act percentages from nil up to 20 have been so added. The price to be paid to the licensee is, in the words of section 7 (7),

On payment of the value of all lands, buildings, works, materials and plant of the licensee suitable to, and used by him for, the purposes of the undertaking, other than a generating station declared by the license not to form part of the undertaking for the purpose of purchase, such value to be, in case of difference or dispute, determined by arbitration :

Provided that the value of such lands, buildings, works, materials and plant shall be deemed to be their fair market value at the time of purchase, due regard being had to the nature and condition for the time being of such lands, buildings, works, materials and plant, and to the state of repair thereof, and to the circumstance that they are in such a position as to be ready for immediate working, and to the suitability of the same for the purposes of the undertaking :

Provided also that there shall be added to such value as aforesaid such percentage, if any, not exceeding twenty per centum on that value as may be specified in the license, on account of compulsory purchase. *r*

There is of course considerable doubt as to how the parties to a sale will fare when the time arises, not only under this Act but also under the Indian Tramways Act and various British Statutes. When electrical undertakings have been purchased heretofore the transfer has generally been a matter of bargaining between the parties, before the statutory period has expired, and not one of compulsory purchase. The amount paid in excess of the value of the "block" has consequently varied greatly in different cases.

British tramways are subject to a very similar purchase clause and a case was reported in *Engineering* which came eventually before the courts after arbitration proceedings; *Oldham, etc., Tramways v. Ashton Corporation* (1921) 1 K.B. 269. The Corporation took over the tramway and the arbitrator awarded the company a sum representing the "then value" which he based upon "the value of the purchased undertaking measured by what it would cost to construct and establish the purchased undertaking on the date of notice, if the purchased undertaking had not existed at that date, but taking into account a proper deduction in respect of depreciation." *

Mr. Justice Rowlatt held that there must be allowed as part of the value (1) the remuneration of the engineer, but subject to depreciation, because, although if a new tramway had been built a new engineer would have been employed, the purchase of the tramway had postponed that necessity; and (2) interest on capital during construction as part of or an accretion to the capital employed, and subject or not to depreciation according to whether spent on depreciating things such as rails, or a non-depreciating thing, such as excavation. It was held, however, that the cost to the promoters (whose rights had been transferred to the claimants) of raising their capital must be disallowed. The arbitrator included also a sum based on his experience in such matters for preliminary expenses, directors' fees, expenses of the formation of the company, etc., without giving details. In this respect the Court refused to interfere with his decision. One other point was raised. In the Order authorizing the constructing of the tramway a provision was inserted at the instance of a railway company over whose lines the tramway passed by a bridge that if the railway company required at any time to make structural alterations to the bridge the

* As to depreciation, see paragraph 19 *post*.

PARA. 10.

promoters should temporarily divert the tramway. Some years later the railway company did so require, and the tramway was diverted. It was held that the cost of diversion could not be allowed either as part of the cost of construction or otherwise.

Addition to price on account of compulsory purchase.

Under the present Act the applicant for a license may at the outset bargain with the Local Government as to the amount of the addition (if any) to the market value which is to be named in his license. It may vary from nil up to 20 per cent. and within these limits the Local Government fixes the percentage; the applicant, if he is dissatisfied, need not proceed further. Should he take out a license, this clause remains in abeyance until the first option of purchase arises, after a period not exceeding 50 years, but he is then entitled to not less than two years' notice of any election to purchase. If notice to purchase is given the "fair market value" is to be determined by the arbitrator, just as though no addition were to be given, and the percentage laid down in the license is then to be added in order to determine the actual price to be paid. Apparently it would be possible for the licensee, in the absence of special provision in the license, to spend a large sum on extensions at the last moment, in order to obtain an immediate return in the form of the bonus; this point should not be overlooked in drawing up licenses.

Combined undertaking and purchase.

The significance of the words added in 1910 "other than a generating station declared by the license not to form part of the undertaking for the purpose of purchase" has been discussed in paragraph 9, in connection with revocation; the words must be read in conjunction with the direction to the Local Government contained in section 3 (2) (d), sub-head (ii).

Subsequent options to purchase.

If no option to purchase after the expiry of the original period has been exercised the option recurs thereafter at intervals not exceeding 20 years—the exact period to be specified in the license—on the same terms and conditions.

Condition after purchase under section 7.

Where a purchase has been effected either by the local authority or by the Local Government, sub-section (3) of section 7 lays down the conditions that apply, namely:—

- (a) the undertaking shall vest in the purchasers free from any debts, mortgages or similar obligations of the licensee or attaching to the undertaking:

Provided that any such debts, mortgages or similar obligations shall attach to the purchase-money in substitution for the undertaking; and

- (b) save as aforesaid, the license shall remain in full force, and the purchaser shall be deemed to be the licensee :

Provided that where the Local Government elects to purchase under sub-section (2), the license shall, after purchase, in so far as the Local Government is concerned, cease to have any further operation. PARA. 10.

The remarks in paragraph 9 on the similar provision in clause 5 may be referred to.

Omission of
purchase
clause in
special
cases.

In the case of undertakings intended for the supply of energy in bulk to other licensees for distribution by them the ordinary terms of purchase are virtually inapplicable, as the area of supply covered by such an undertaking will be so large as to make it impracticable for any local authority to work it, even if Government should effect the purchase and hand the undertaking over to the authority in question. And whatever view may be taken of the legitimacy of Municipal trading in the matter of electric supply for general private purposes it will be generally agreed that the supply of power on a large scale for industrial purposes is quite out of the province of any Municipal body, either at home or abroad. It is altogether a special engineering problem requiring both business and technical ability devoted entirely to it. In Great Britain, when the first undertaking of this sort was proposed, the whole question was thrashed out exhaustively by a Joint Select Committee of both Houses of Parliament, under Lord Cross as chairman. Though the legislation then recommended has even now been only undertaken in part it was in consequence of the recommendations in their report on "Electrical Energy (Generating Stations and Supply)" (1898) that special Acts of Parliament have always been passed in these cases, a sliding scale of authorized charges and dividends * taking the place of compulsory purchase. The provisions of section 10, clause (a), which were also in the Act of 1903, do not include the power to vary the purchase terms in sections 5, 7 and 8 to the extent of annulling them altogether, as was believed when that Act was passed. Terms could no doubt have been devised and inserted in licenses which would have effectually removed all chance of purchase actually taking place; but clause (b) of the section now allows the Local Government to "direct that, subject to such conditions and restrictions (if any) as it may think fit to impose, the provisions of the said sections or any of them shall not apply." The words are not confined to any particular manner of supply, but it is unlikely that the power they convey will ordinarily be

* See para. 17 below.

PARA. 10. used in any other case than that of bulk supply. The words "with the previous sanction of the Governor General in Council" in the Act of 1910 have been repealed by the Devolution Act, 1920 (XXXVIII of 1920). (See also paragraph 17 dealing with Bulk Supply.)

Accounts. Section 11 provides for the rendering of accounts by licensees unless expressly exempted by the terms of the license. The bearing of this question on that of compulsory purchase is dealt with in paragraph 19, and the remarks earlier in this chapter on the accounts of "combined undertakings" may be referred to.

PARA. 11. II. As to Licensee's Works.—Sections 12 to 19 dealing with the powers of and restrictions on licensees and other persons as to works, have been brought together from various sources and much curtailed as compared with the corresponding British clauses. The lengthy details of procedure as to works in sections 13 *et seq.* are taken generally, and in part verbatim, from the Electric Lighting (Clauses) Act, 1899, or from the various sections of the Gasworks Acts, which were incorporated in the British Electric Lighting Act, 1882, by its 12th section. The procedure when public or private streets are to be broken up, pipes or wires altered, or electric supply-lines laid in proximity to sewers, gas or water-pipes, or other similar lines of another licensee or user, are set forth in such minute detail in the Act that little need be written here by way of comment. As a general rule objections on the part of one authorized person to work that is being carried out by another, or differences or disputes between the two, all of which circumstances are so amply provided for in these sections, will not arise if the licensee approaches the local or other authority in a conciliatory and tactful spirit. Speaking generally, the procedure has proved satisfactory and not onerous.

Powers of licensee as to works. In the authorizing section 12 (7) power is given to the licensee, but subject to the terms and conditions of his license, to—

- (a) open and break up the soil and pavement of any street, railway or tramway ;
- (b) open and break up any sewer, drain or tunnel in or under any street, railway or tramway ;
- (c) lay down and place electric supply-lines and other works ;
- (d) repair, alter or remove the same ; and
- (e) do all other acts necessary for the due supply of energy.

These acts may be done either in the area of supply or outside that area, if the license gives power to lay mains

outside. The cases where this may occur are, first, where the generating station is outside the area of supply and, secondly, where there is an intervening area between two licensed areas. Section 3 (7) permits the grant of powers, in any license, to lay mains in these special cases and the substantive part of section 12 (7) makes the powers so given operative.

PARA. 11.

The general power conferred by sub-section 12 (7) is limited in the clauses immediately following. It confers no right to place lines or works in, through or against any buildings or on, over or under any land not dedicated to public use without consent, except in the cases specified in the first proviso to that sub-section to the effect that a support, or a stay or strut, may be fixed on any building or land, notwithstanding the objection of the owner or occupier, if the District Magistrate, or the Commissioner of Police, so directs. The support, stay or strut so fixed may subsequently be removed by virtue of a similar order, and the orders in both cases are subject to revision by the Government. The Magistrate or Commissioner of Police fixes the amount of compensation or of annual rent which should in his opinion be paid in such cases. It will be noticed that this important proviso has been extended by the addition of the words "any support of an aerial line," which were not in the Act of 1903. Representations were made that in cities with narrow or tortuous streets it was almost impossible to place poles without obstructing the roadway, so that in the placing of brackets on buildings, or of poles on land bordering on the street, the public interest would really be served. It should be observed that only the supports, and not the supply-lines themselves, may be so placed; as to this there is no practical difficulty. Should the licensee desire to go further and place supply-lines on private property he must obtain the consent of the person affected; except, of course, in the matter of service lines for the supply of the premises in question.

Limitations
of general
power.

Secondly, streets not repairable by Government or a local authority, and railways and tramways, may not be broken up, unless power to do so is inserted in the license, without written consent, "unless with the written consent of the Local Government"; and notice must be given to the parties concerned and their objections, if any, considered before such consent is given. Under the rules to be complied with on making application for a license, already

PARA. 11. discussed, a list must be given of these (so to speak) private streets and of the railways and tramways which the applicant seeks power to interfere with. Any such powers must be specific, so that it will seldom be practicable to insert these powers in the license itself. Where this is not practicable beforehand the exact nature of the proposed interference must be stated when the need arises ; and notice having been given to all persons concerned by public advertisement or otherwise, as Government may direct, the power sought can then be granted or refused as Government thinks fit.

These restrictions do not affect the right of the licensee to break up the public roads, whether the local authority will or no, provided due notice is given and the work is done in accordance with the detailed instructions in sections 13, 14 or 15 as the case may be. These provisions also apply where the road is not a public one, and in cases where power to break up railways, tramways, etc., is given. Default in carrying out the details of the programme laid down for the breaking up of streets, etc., is dealt with in these sections in part, but see also paragraph 27 *infra* regarding penalties. In addition it is also important to notice that by section 19 the licensee is to pay compensation "for any damage, detriment or inconvenience caused by him or by any one employed by him."

Compulsory
works.

Clause IV of the Schedule to the Act imposes obligations on the licensee as to the execution of works after the commencement of the license, three years being allowed. He must "execute to the satisfaction of the Local Government all such works as may be specified in the license in this behalf or, if not so specified, as the Local Government may, by order in writing issued within six months of the commencement of the license, direct."

In the Author's commentary on the Act of 1903, the following remarks were made on the corresponding provision of that Act, clause VI :—

It has been urged that the naming of compulsory streets in a license is unnecessary, that licensees for their own benefit will lay down mains where it is likely to pay and that they should not be compelled to lay them down promiscuously in streets which may never bring in a paying number of consumers. There is no doubt much truth in this. * * * In the place of the original plan of having a list of "compulsory streets" in an annexure to the license, the procedure now is that the Government may specify what compulsory streets it chooses during the first six months of the license. * * * * Probably the Local Government will ascertain by adver-

tisement, through the local authority or otherwise, in what streets a demand is likely to arise. And in exchange for the valuable concession of a license it cannot be said that the licensee would be hardly treated if compelled on special grounds in some cases to lay down compulsory mains which would not be likely to pay in the first instance. Objection has, however, been taken to this clause on the grounds that it would create uncertainty and that the licensee would be unable to design his system of mains until the expiry of these six months. Should this prove to be so the clause can be "expressly excepted" in licenses, but it is doubtful if this will be found necessary.

PARA. 11.
—

Further provisions as to laying down compulsory works in response to requisitions will be found in clause V of the Schedule ; as to compulsory supply in clauses VI and VIII ; and as to laying down special service lines where there are no distributing mains in clause VII. Supply to distributing licensees is dealt with in clause IX. These matters are dealt with later in this Introduction.

Section 13 deals with the procedure of the licensee as regards new works, and much complication is saved by the use of the terms "repairing authority" as regards streets and "owner" as regards railways, tramways, canals or waterways—no matter to whom they may belong. Sub-clause (a) is of general application in connection with the substantive part of the clause which it follows. Sub-clauses (b) and (c) deal with objections by the repairing authority, as regards streets ; sub-clauses (d) and (e) deal with objections by the owner, as regards railways, tramways, canals and waterways ; sub-clauses (f) and (g) deal with the special cases of service lines and repairs respectively which are exempted in sub-clause (a).

A special case is dealt with in sub-section (3), namely, that in case of the breakdown of an underground main the licensee may erect a temporary emergency aerial line after simply giving notice to the repairing authority or owner. If he has already received approval under section 18, this clause has no application. By clause XVII of the Schedule the licensee must also give notice of new works to the Electric Inspector.

Section 14 lays down the procedure to be followed when the licensee wishes to alter the position of any pipe or wire that interferes with the exercise of his powers, or where any other person for similar reasons wishes to alter the position of the licensee's electric supply-lines. Generally few such alterations are necessary in Indian towns, where the streets in which mains are run are mostly wide and have little in the way of overhead or subterranean works.

Alteration of
pipes or
wires.

PARA. 11.

Carrying out
works near
existing
works.

Section 15 provides for most eventualities when works are carried out in proximity to other authorized works which might be damaged during construction or afterwards through the neglect of proper precautions. Sub-clause (b) of sub-section (1) is commented on in the notes on the section itself, page 223, as some doubt has been raised as to its scope. The matters dealt with here are generally capable of simple adjustment. In connection with this section reference should be made to section 31 for the general protection of railways and canals, etc., and section 32 for the protection of the telegraphs.

Fencing,
lighting and
reinstatement.

Section 16 is for the protection of the public from accident when the ground has been opened up for any purpose. After the surface has been made good it must be kept good during subsidence, for a year if necessary. This requirement is not always followed out as it should be ; the penalty set forth in section 47 is applicable to the breach.

Notice to
telegraph
authority.

Section 17 provides for giving notice of new works to the telegraph authority, with some details of the works, and enacts that the reasonable requirements of that authority must be complied with. Section 18 as to aerial lines is dealt with in paragraph 14 of this Introduction ; and section 19, as to compensation, is similarly dealt with in paragraph 15. It may be thought that the notices required to be given by a licensee are unnecessarily numerous, but when all is said and done it is a matter merely of routine to comply with these duties. This short summary will suffice to show the general trend of the provisions relating to works, which are self-explanatory to such a degree that it is unnecessary to quote extensively from them here. In practice it will be found that works can generally be carried out by consent, so long as mutual consideration is shown by the two parties concerned. In the event of high-handed action on the part of the licensee, or obstruction on the part of the owner, operator, local authority or whoever may be concerned, such action can be effectively checked by a reference to arbitration which is provided for in these various clauses—and see also section 52 of the Act.

What are
works.

The term “ works ” is used in its ordinary meaning in various places in the Act and the rules, but as regards a licensee it has the defined meaning of “ electric supply-lines and any building, machinery and apparatus required to *supply* energy . . . ” (section 2 (n)). Of these, only electric supply-lines will usually be in streets or places to

which the public has access, and the term (which is defined in section 2 (f)) includes transmission lines, "mains," "distributing mains" and "service lines"—*vide* notes on these terms collected together in note 2 to section 2 of the Act. The very important question as to where the licensee's responsibility ends is discussed at the beginning of paragraph 33 *post*, page 156, under the marginal heading "Responsibility."

PARA 11
—

12. Transmission of Power Lines.—The somewhat cumbrous, though necessary, provisions of sections 12 to 19, while holding good for purposes connected with the supply and use of electrical energy in towns, may be inapplicable in the country; for example, in the case of a line of great length, required to cross fields belonging to innumerable owners. Separate negotiations with each individual owner would be out of the question, so that in the absence of compulsory powers no such lines could materialize; but at the present day long transmission of power lines from coal-fields and water-power plants are an economic necessity. Government has for many years had the power to run telegraph lines where it thinks fit, under the conditions laid down in the Indian Telegraph Act, 1885 (XIII of 1885) as amended; and this power was also taken for other electric lines in the (now repealed) Electricity Acts of 1887 and 1903. Section 51 of the Act, which it will be found more convenient to discuss here than in its natural sequence, was on this account devised as affording much simpler procedure than that ordinarily prescribed. The section, as amended in 1922, runs:—

PARA. 12.
—

51. Notwithstanding anything in sections 12 to 16 (both inclusive) and sections 18 and 19, the Local Government may, by order in writing, for the placing of appliances and apparatus for the transmission of energy, confer upon any public officer or licensee, subject to such conditions and restrictions (if any) as the Local Government may think fit to impose, and to the provisions of the Indian Telegraph Act, 1885, any of the powers which the telegraph authority possesses under that Act, with respect to the placing of telegraph lines and posts for the purposes of a telegraph established or maintained by the Government or to be so established or maintained.

The Local Government was substituted for the Governor General in Council by the Indian Electricity (Amendment) Act, 1922. The term "transmission of energy" as used in this section obviously refers mainly to such cases as are alluded to above, generally called by engineers the "transmission of power." This is mentioned because the same

PARA. 12.

term is used in Part III of the Act, where it refers to conditions which may be quite different, *e.g.* merely the transmission of energy from one side of the road to the other. Between these two limits there are infinite gradations, and hitherto there has been no legal decision in India as to what constitutes "transmission of energy." In the author's opinion powers should not be given under this section for the laying down of a "distributing main" or a "service line" connected to the same, although such mains and service lines would be transmitting energy; on the other hand, any line transmitting energy from a generating station to a sub-station or from a sub-station to a feeding point would appear to be within the orbit of the section.

Extracts
from Indian
Telegraph
Act.

The provisions of the Indian Telegraph Act (XIII of 1885) referred to may conveniently be set out in full, together with those definitions which may affect persons working under the Indian Electricity Act, in which Act these definitions are incorporated by reference (see section 2). The two sections 19A and 19B were added by the Indian Telegraph (Amendment) Act, 1914 (VII of 1914); also the words "making, transmitting or receiving" were substituted for "transmitting and making" in section 3 (7).

Definitions,
from Tele-
graph Act.

PART I.—Section 3 :—

- (1) "Telegraph" means an electric, galvanic or magnetic telegraph, and includes appliances and apparatus for making, transmitting or receiving telegraphic, telephonic or other communications by means of electricity, galvanism or magnetism ;
- (2) "Telegraph Officer" means any person employed either permanently or temporarily in connection with a telegraph established, maintained or worked by the Government or by a person licensed under this Act ;
- (3) "Message" means any communication sent by telegraph, or given to a telegraph officer to be sent by telegraph or to be delivered ;
- (4) "Telegraph line" means a wire or wires used for the purpose of a telegraph, with any casing, coating, tube or pipe enclosing the same and any appliances and apparatus connected therewith for the purpose of fixing or insulating the same ;
- (5) "Post" means a post, pole, standard, stay, strut or other above-ground contrivance for carrying, suspending or supporting a telegraph line ;
- (6) "Telegraph authority" means the Director-General of Telegraphs and includes any officer empowered by him to perform all or any of the functions of the telegraph authority under this Act.

Power to
place lines
and posts.

In the Interpretation of Part III of the Indian Telegraph Act immediately following—Power to Place Telegraph lines

and posts—the words placed in square brackets must be interpreted according to the incorporating section (51) of the Indian Electricity Act, 1910; *i.e.* PARA. 12.
—

for “telegraph authority,” *read* “public officer or licensee.”

“Government” *read* “public officer or licensee.”

“a telegraph established or maintained by the Government, etc.” *read* “placing of appliances or apparatus for the transmission of energy.”

“telegraph line or post” *read* “appliances or apparatus for the transmission of energy.”

“telegraphic communication” *read* “transmission of energy.”

“this Act” *read* “the Indian Electricity Act, 1910.”

PART III.—POWER TO PLACE [TELEGRAPH] LINES AND POSTS:—

Section 10. The [telegraph authority] may, from time to time, place and maintain [a telegraph line] under, over, along or across, and posts in or upon, any immoveable property:

Power for [telegraph authority] to place and maintain [telegraph] lines and posts.

Provided that—

- (a) the [telegraph authority] shall not exercise the powers conferred by this section except for the purposes of [a telegraph established or maintained by the Government, or to be so established or maintained];
- (b) [the Government] shall not acquire any right other than that of user only in the property under, over, along, across, in or upon which the [telegraph authority] places any [telegraph line or post];
- (c) except as hereinafter provided, the [telegraph authority] shall not exercise those powers in respect of any property vested in or under the control or management of any local authority, without the permission of that authority; and
- (d) in the exercise of the powers conferred by this section, the [telegraph authority] shall do as little damage as possible, and, when it has exercised those powers in respect of any property other than that referred to in clause (c), shall pay full compensation to all persons interested for any damage sustained by them by reason of the exercise of those powers.

11. The [telegraph authority] may, at any time, for the purpose of examining, repairing, altering, or removing any [telegraph line or post], enter on the property under, over, along, across, in or upon which the line or post has been placed.

Power to enter on property in order to repair or remove [telegraph] lines or posts.

Provisions Applicable to Property vested in or under the Control or Management of Local Authorities.

12. Any permission given by a local authority under section 10, clause (c), may be given subject to such reasonable conditions as that authority thinks fit to impose, as to the payment of any expenses to which the authority will necessarily be put in consequence of the exercise of the powers conferred by that section, or as to the time

Power for local authority to give permission under section 10, clause (c), subject to conditions.

PARA. 12. or mode of execution of any work, or as to any other thing connected with or relative to any work undertaken by the [telegraph authority] under those powers.

Power for local authority to require removal or alteration of [telegraph] line or post. 13. When, under the foregoing provisions of this Act a [telegraph line or post] has been placed by the [telegraph authority] under, over, along, across, in or upon any property vested in or under the control or management of a local authority, and the local authority, having regard to circumstances which have arisen since the [telegraph line or post] was so placed, considers it expedient that it should be removed or that its position should be altered, the local authority may require the [telegraph authority] to remove it or alter its position, as the case may be.

Power to alter position of gas or water pipes or drains. 14. The [telegraph authority] may, for the purpose of exercising the powers conferred upon it by this Act in respect of any property vested in or under the control or management of a local authority, alter the position thereunder of any pipe (not being a main) for the supply of gas or water, or of any drain (not being a main drain):

Provided that—

- (a) when the [telegraph authority] desires to alter the position of any such pipe or drain it shall give reasonable notice of its intention to do so, specifying the time at which it will begin to do so, to the local authority, and, when the pipe or drain is not under the control of the local authority, to the person under whose control the pipe or drain is ;
- (b) a local authority or person receiving notice under clause (a) may send a person to superintend the work, and the [telegraph authority] shall execute the work to the reasonable satisfaction of the person so sent.

Disputes between [telegraph authority] and local authority. 15. (1) If any dispute arises between the [telegraph authority] and a local authority in consequence of the local authority refusing the permission referred to in section 10, clause (c), or prescribing any condition under section 12, or in consequence of the [telegraph authority] omitting to comply with a requisition made under section 13, or otherwise in respect of the exercise of the powers conferred by this Act, it shall be determined by such officer as the Local Government may appoint either generally or specially in this behalf.

(2) An appeal from the determination of the officer so appointed shall lie to the Local Government ; and the order of the Local Government shall be final.

Provisions Applicable to other Property.

Exercise of powers conferred by section 10 and disputes as to compensation, in case of property other than that of a local authority. 16. (1) If the exercise of the powers mentioned in section 10 in respect of property referred to in clause (d) of that section is resisted or obstructed, the District Magistrate may, in his discretion, order that the [telegraph authority] shall be permitted to exercise them.

(2) If, after the making of an order under sub-section (1), any person resist the exercise of those powers, or, having control over the property, does not give all facilities for their being exercised, he shall be deemed to have committed an offence under section 188 of the Indian Penal Code.

(3) If any dispute arises concerning the sufficiency of the compensation to be paid under section 10, clause (d), it shall, on application for that purpose by either of the disputing parties to the District Judge within whose jurisdiction the property is situate, be determined by him.

(4) If any dispute arises as to the persons entitled to receive compensation, or as to the proportions in which the persons interested are entitled to share in it, the [telegraph authority] may pay into the Court of the District Judge such amount as he deems sufficient or, where all the disputing parties have in writing admitted

the amount tendered to be sufficient or the amount has been determined under sub-section (3), that amount ; and the District Judge, after giving notice to the parties and hearing such of them as desire to be heard, shall determine the persons entitled to receive the compensation or, as the case may be, the proportions in which the persons interested are entitled to share in it.

(5) Every determination of a dispute by a District Judge under sub-section (3) or sub-section (4) shall be final :

Provided that nothing in this sub-section shall affect the right of any person to recover by suit the whole or any part of any compensation paid by the [telegraph authority] from the person who has received the same.

17. (1) When, under the foregoing provisions of this Act, a [telegraph line or post] has been placed by the [telegraph authority] under, over, along, across, in or upon any property not being property vested in or under the control or management of a local authority, and any person entitled to do so desires to deal with that property in such a manner as to render it necessary or convenient that the [telegraph line or post] should be removed to another part thereof or to a higher or lower level or altered in form, he may require the [telegraph authority] to remove or alter the [line or post] accordingly.

Provided that, if compensation has been paid under section 10, clause (d), he shall, when making the requisition, tender to the [telegraph authority] the amount requisite to defray the expense of the removal or alteration, or half of the amount paid as compensation, whichever may be the smaller sum.

(2) If the [telegraph authority] omits to comply with the requisition, the person making it may apply to the District Magistrate within whose jurisdiction the property is situate to order the removal or alteration.

(3) A District Magistrate receiving an application under sub-section (2) may, in his discretion, reject the same or make an order, absolutely or subject to conditions, for the removal of the [telegraph line or post] to any other part of the property or to a higher or lower level or for the alteration of its form ; and the order so made shall be final.

Provisions Applicable to all Property.

18. (1) If any tree standing or lying near a [telegraph line] interrupts, or is likely to interrupt [telegraphic communication], a Magistrate of the first or second class may, on the application of the [telegraph authority], cause the tree to be removed or dealt with in such other way as he deems fit.*

(2) When disposing of an application under sub-section (1), the Magistrate shall, in the case of any tree in existence before the [telegraph line] was placed, award to the persons interested in the tree such compensation as he thinks reasonable, and the award shall be final.

19. Every [telegraph line or post] placed before the passing of this Act under, over, along, across, in or upon any property, for the purposes of a [telegraph established or maintained by the Government], shall be deemed to have been placed in exercise of the powers conferred by, and after observance of all the requirements of, this Act.

19A. (1) Any person desiring to deal in the legal exercise of a right with any property in such a manner as is likely to cause damage to a [telegraph line or post] which has been duly placed in accordance with the provisions of [this] Act, or to interrupt, or interfere with [telegraphic communication], shall give not less than one month's notice in writing of the intended exercise of such right to the [telegraph authority].

* See section 18 (2) (3) (4) and section 29A of the Indian Electricity Act, based on the above. Naturally action would be taken under these sections, and s. 18 of the Indian Telegraph Act would be ignored.

PARA. 12. authority], or to any [telegraph] officer whom the [telegraph authority] may empower in this behalf.

(2) If any such person without having complied with the provisions of sub-section (1) deals with any property in such a manner as is likely to cause damage to any [telegraph line or post], or to interrupt or interfere with [telegraphic communication], a Magistrate of the first or second class may, on the application of the [telegraph authority], order such person to abstain from dealing with such property in such manner for a period not exceeding one month from the date of his order and forthwith to take such action with regard to such property as may be in the opinion of the Magistrate necessary to remedy or prevent such damage, interruption or interference during such period.

(3) A person dealing with any property in the manner referred to in sub-section (1) with the *bona fide* intention of averting imminent danger of personal injury to himself or any other human being shall be deemed to have complied with the provisions of the said sub-section if he gives such notice of the intended exercise of the right as is in the circumstances possible, or where no such previous notice can be given without incurring the imminent danger referred to above, if he forthwith gives notice of the actual exercise of such right to the authority or officer specified in the said sub-section.

Power to confer upon licensee powers of [telegraph authority] under this Part.

19B. The Governor-General in Council may, by notification in the Gazette of India, confer upon any licensee under section 4, in respect of the extent of his license and subject to any conditions and restrictions which the Governor-General in Council may think fit to impose and to the provisions of this Part, all or any of the powers which the [telegraph authority] possesses under this Part with regard to a [telegraph established or maintained by the Government] or to be so established or maintained: *

Provided that the notice prescribed in section 19A shall always be given to the [telegraph authority] or officer empowered to receive notice under section 19A (1).

Application of Act to Presidency-towns and Rangoon.

34. (1) This Act, in its application to the Presidency-towns, shall be read as if for the words "District Magistrate" in section 16, sub-section (1), and section 17, sub-sections (2) and (3), for the words "Magistrate of the first or second class" in section 18, sub-section (1), and for the word "Magistrate" in section 18, sub-section (2), there had been enacted the words "Commissioner of Police," and for the words "District Judge," in section 16, sub-sections (3), (4) and (5), the words "Chief Judge of the Court of Small Causes."

(2) Section 16, in its application to the town of Rangoon, shall be read as if for the words "District Judge," whenever they occur in that section, there had been enacted the words "Judge of the Court of Small Causes."

(3) The fee in respect of an application to the Chief Judge of a Presidency Court of Small Causes under sub-section (3) of section 16 shall be the same as would be payable under the Court-fees Act, 1870, in respect of such an application to a District Judge beyond the limits of a Presidency-town, and fees for summonses and other processes in proceedings before the Chief Judge under sub-section (3) or sub-section (4) of that section shall be payable according to the scale set forth in the fourth schedule to the Presidency Small Cause Courts Act, 1882.

The main points in the above sections may be summarized as follows: The licensee, if duly authorized, may run a line over any land not belonging to a local authority, without acquiring any property or going through any com-

* "Licensee" here refers, of course, to licensees under the Telegraph Act, as for instance telephone companies, etc., and not to licensees under the Electricity Act. Cf. section 51 of the Indian Electricity Act below.

plicated procedure. But he acquires only the right to erect, use and maintain the line and nothing more, and the owner may, either by agreement or through a Magistrate or Commissioner of Police, have any works altered or changed later on if necessary. Should it be necessary to remove a tree, an order from the Magistrate or Commissioner of Police is required and compensation is payable [this section of the Telegraph Act, in an extended form, is in the Indian Electricity Act itself as section 18, sub-sections (3) and (4), the amendments introduced in 1922 going further than the provisions here discussed ; *vide* paragraph 14. See also section 29A]. Any damage done to the property must be paid for. If the line has to cross land belonging to a local authority, that body may make conditions, and may have the line removed later on. Pipes, etc., may be removed under less cumbersome procedure than in the Electricity Act. Obviously if any question arises as to what may properly be termed a "transmission line" in the sense in which the term is here used, the matter would be settled by the Local Government, which would refuse consent in cases not intended to come under this section.

PARA. 12.

In applying the procedure here laid down to the case of a transmission line the "public officer or licensee" takes the place of the "telegraph authority," the "appliances and apparatus for the transmission of energy," *i.e.* "transmission line," takes the place of the "telegraph line" and so on. The powers can only be delegated to a public officer or to a licensee and not to the applicant for license ; and, while there is no doubt that they will be liberally given in cases where the circumstances admit, this will only be done after thorough investigation on the spot, and examination of the project. It is not likely that the provisions will be allowed to operate in a town, otherwise than in exceptional cases, although such cases have in the past arisen ; and it is undesirable that high tension transmission lines should run through villages if this can be avoided by a detour. These points should be borne in mind when planning a line. Aerial lines generally are discussed in paragraph 14 below ; it is sufficient to mention here that many of the rules dealing with them apply only in "streets," seeing that the public would be very little concerned with any transmission lines to which these provisions of the Telegraph Act would be applied. Such a line, working at very high pressure, must necessarily be constructed on the most approved mechanical

Discussion
of above
provisions.

PARA. 12. and electrical principles, and supervised continually, every possible risk being insured against at the outset. Chances which a badly managed undertaking might hazard on a distribution system, where failure would be only partial, would be suicidal on a transmission of power line.*

It will be noticed also that section 18 of the Indian Electricity Act applies where aerial lines are placed in *streets* (*vide* definition). In other cases the general approval of Government is not necessary ; but as roads and other property comprised within the very elastic definition of streets, as well as telegraph lines, will always be crossed, it is necessary for the licensee to submit his plans of these crossings for sanction under section 13, and it would be to his advantage to explain at the same time how he proposes to run the rest of his line. It may be a question whether rivers and waterways are "streets" or not. The Act speaks of waterways in several sections, and a street includes a "way" over which the public have a right of way.

One small question arose in connection with this matter under the Act of 1903. The District Magistrate has to decide certain matters under the quoted sections of the Indian Telegraph Act, and it has been pointed out that he may also be the Chairman of the Municipality involved in his judicial decision. There is no reason to anticipate that in such a case the officer in question would have any difficulty in exercising his judicial function impartially ; and it would be open to him to let the local authority manage its own share of the matter without his intervention. It is by no means the only case in which he exercises the dual function. While anxious to avoid treading on delicate ground the Author would suggest that where a local authority is a licensee it should exercise the statutory powers conferred on it with the same solicitude for the welfare of the residents as it would insist on if a company held the license in question.

It has been suggested that section 51 might be extended to enable powers to be given to a licensee to construct and work a private telephone system for the benefit and

Private
telephone
lines.

* It is perhaps not always recognized as it should be that liberties cannot be taken with electric supply-lines, even when low-pressure. Carelessness invariably ends in loss, if not in serious accident, a fact which licensees always bear in mind because their business would suffer by neglect. But it applies equally to consumers and others, as by suffering shoddy work to be done by incompetent contractors they endanger both their supply and their persons.

use of his undertaking. At present, a special license must be given under the Indian Telegraph Act, and such a license has in fact been given to the Madras Electric Tramway Co. A system of telephones is absolutely necessary to a licensee, whether they are public or private; and in view of the urgency of such crises as breakdowns in a substation or on an overhead line, it would be preferable that dependance should not be placed on the ordinary public service. What is a convenience (albeit of importance) in a town becomes essential on a scheme of any magnitude extending over a large area not served by public telephones, as with hydro-electric schemes. A simpler procedure is therefore desirable.

PARA. 12.

13. Acquisition of land.—The compulsory acquisition of land is dealt with in the Land Acquisition Act, 1894 (I of 1894), which extends to the whole of British India, and was enacted for the purpose of amending the law for the acquisition of land for public purposes and for companies and for determining the amount of compensation to be made on account of such acquisition. The Land Acquisition Act, 1894, was amended in consequence of the Reforms, as to sections 38, 41 and 55, by the Devolution Act, 1920, (XXXVIII of 1920); and also in other respects by Act XXXVIII of 1923.

PARA. 13.

Licensees will frequently wish to avail themselves of the provisions of the Act and the following remarks will no doubt prove useful.

Section 4 provides that whenever it appears to the Local Government that any land in any locality is needed or is likely to be needed for any public purpose—as to which there is no definition in the Act, the decision resting in each case with the Local Government—a notification to that effect shall be published in the official Gazette and the Collector shall cause public notice of the substance of such notification to be given at convenient places in the said locality.

Précis of
Land Acquisition Act,
1894, as
amended.

Thereupon it shall be lawful for any officer, either generally or specially authorized by such Government in this behalf, and his servants and workmen :

to enter upon and survey and take levels of any land in such locality ;

to dig or bore into the subsoil ;

to do all other acts necessary to ascertain whether the land is adapted for such purpose ;

to set out the boundaries of the land proposed to be taken and the intended line of the work (if any) proposed to be made thereon ;

58 LICENSED UNDERTAKINGS ; PART II AND SCHEDULE.

PARA. 13.

to mark such levels, boundaries and line by placing marks and cutting trenches ;
and,

where otherwise the survey cannot be completed and the levels taken and the boundaries and line marked, to cut down and clear away any part of any standing crop, fence or jungle :

Provided that no person shall enter into any building or upon any enclosed court or garden attached to a dwelling-house (unless with the consent of the occupier thereof) without previously giving such occupier at least seven days' notice in writing of his intention to do so.

Section 5 provides for the payment of damage done on entry. It will be seen that the above sections only extend to land needed for a "public purpose" but section 38 of the Act, as amended by the Devolution Act, 1920, provides as follows :—

- (i) The Local Government may authorize any officer of any company desiring to acquire land for its purposes to exercise the powers conferred by section 4.
- (ii) In every such case section 4 shall be construed as if for the words "for such purpose" the words "for the purposes of the company" were substituted : and section 5 shall be construed as if after the words "the officer" the words "of the company" were inserted.

The effect of this section, it will be seen, is to empower a company, subject however to certain additional formalities remarked upon below, to acquire land which it is considered by the Local Government is needed for the purposes of the company. Section 5A, added by Act XXXVIII of 1923, provides for the hearing of objections to acquisition :

- (1) Any person interested in any land which has been notified under section 4, sub-section (1), as being needed or likely to be needed for a public purpose or for a Company may, within thirty days after the issue of the Notification, object to the acquisition of the land or of any land in the locality, as the case may be.
- (2) Every objection under sub-section (1) shall be made to the Collector in writing, and the Collector shall give the objector an opportunity of being heard either in person or by pleader and shall, after hearing all such objections and after making such further enquiry, if any, as he thinks necessary, submit the case for the decision of the Local Government, together with the record of the proceedings held by him and a report containing his recommendations on the objections. The decision of the Local Government on the objections shall be final.
- (3) For the purposes of this section, a person shall be deemed to be interested in land who would be entitled to claim an interest in compensation if the land were acquired under this Act.

Section 6 provides that

"when the Local Government is satisfied, after considering the Report, if any, made under section 5A, sub-section (2), that any particular land is needed for a public purpose or for a company, a declaration shall be made to that

effect under the signature of a Secretary to such Government or of some officer duly authorized to certify its orders ; provided that no such declaration shall be made unless the compensation to be awarded for such property is to be paid by a company or wholly or partly out of public revenues or some fund controlled or managed by a local authority."

PARA. 13.

The declaration is published in the official Gazette and is conclusive evidence that the land is needed for a public purpose or for a company.

The above proviso to the effect that no declaration shall be made " unless the compensation to be awarded for such property is to be paid by a company or wholly or partly out of public revenues or some fund controlled or managed by a local authority " would seem to prohibit the acquisition of land under the Act by a private individual. A licensee or the promoter of a project may, however, be a private individual in the earlier stages, and thus be debarred from obtaining a site for his generating station except on prohibitive terms. Following the precedent set by section 7 (3) of the Indian Tramways Act, 1886, section 57 (2) of the Indian Electricity Act accordingly expressly declares that :—

Amendment
of the Land
Acquisition
Act by the
Indian
Electricity
Act.

- (2) The Local Government may, if it thinks fit, on the application of any person, not being a company, desirous of obtaining any land for the purposes of his undertaking, direct that he may acquire such land under the provisions of the Land Acquisition Act, 1894, in the same manner and on the same conditions as it might be acquired if the person were a company.

A licensee or other person is thus placed on the same footing for the purposes of the Act as a company.

As remarked above, acquisition by a company, and consequently by a licensee, is attended by certain additional formalities to those which have to be conformed with in the case of the acquisition of land for a public purpose, but it will perhaps be more convenient to deal with these formalities later and to proceed with a very brief statement of the general procedure applicable in all cases.

Assuming the declaration of intended acquisition to have been duly made, the Collector causes the land to be marked out and measured and a plan to be made ; and he also gives public notice in the locality that Government intends to take possession of the land, and that claims to compensation may be made to him. An enquiry is then made by the Collector into the objections of interested parties and the value of the land at the date of the publication of the Notification under section 4, sub-section (1), and

General
Procedure.

PARA. 13. the respective interests of the persons claiming compensation and he makes an award (section 11) of—

- (i) the true area of the land ;
- (ii) the compensation which in his opinion should be allowed for the land ; and
- (iii) the apportionment of the said compensation among all the persons known or believed to be interested in the land, of whom, or of whose claims, he has information, whether or not they have respectively appeared before him.

When the Collector has made his award, and, in certain cases of urgency, even before making it, he may take possession of the land, which thereupon absolutely vests in the Government, free from all encumbrances. (Sections 16 and 17.) A new sub-section (4) was added to section 17 by Act XXXVIII of 1923.

Any person interested, who has not accepted the award, may require the matter to be determined by the Court.

The considerations by which the Collector and, in case of objection, the Court are to be guided in determining the amount of compensation, and the matters which they are expressly debarred from taking into consideration, are set forth in sections 23 and 24 of the Act. In section 23 (7), the *first* point to be taken into consideration was amended by Act XXXVIII of 1923 to read :—

First, the market value of the land at the date of the publication of the Notification under section 4, sub-section (1).

The same change was made in section 24, “seventhly.” For obvious reasons, the market value has a habit of rising suddenly when acquisition is known to be in contemplation.

Sections 29 to 37 deal with the apportionment and payment of compensation and the temporary occupation of the land, whilst in Part VIII of the Act will be found various miscellaneous clauses. Section 41 was amended by Act XXXVIII of 1923.

Special provisions applicable to companies and persons.

Turning now to the special provisions of the Act with reference to the acquisition by companies, which sections as already pointed out apply equally to the acquisition by licensees or other persons by virtue of section 57 (2) of the Indian Electricity Act, section 39 of the Land Acquisition Act provides as follows :—

The provisions of sections 6 to 37 (both inclusive) shall not be put in force in order to acquire land for any company unless with the previous consent of the Local Government, nor unless the company shall have executed the agreement hereinafter mentioned.

It is also provided by the following section that such consent shall not be given unless the Local Government is satisfied by enquiry held as thereafter provided—

PARA. 13.

- (a) that such acquisition is needed for the construction of some work ; and
- (b) that such work is likely to prove useful to the public.

The agreement which the company is required to enter into as above is an agreement with the Secretary of State and must provide (section 41) to the satisfaction of the Local Government for the following matters :—

- (1) the payment to Government of the cost of the acquisition ;
- (2) the transfer, on such payment, of the land to the company ;
- (3) the terms on which the land shall be held by the company ;
- (4) the time within which, and the conditions on which, the work shall be executed and maintained ; and
- (5) the terms on which the public shall be entitled to use the [work] electrical energy supplied, or to be supplied, by means of the work to be constructed. (Section 41.)

The early part of this section was amended by Act XXXVIII of 1923.

In the case of companies, it will be seen from the above that the Local Government must be satisfied that the work is likely to prove useful to the public, and in the case of licensees there might be a difficulty in proving that the work, *quâ* work, would be likely to so prove useful, despite the elasticity of the phrase. In the case of a private plant occupied in supplying power to works for the production of chemicals or other industrial products the situation is even less clear, although the public must benefit either directly or indirectly (as taxpayers) from any such works. Also, the agreement must state “the terms on which the public shall be entitled to use the work,” but however great may be the benefit conferred upon the public by an electrical project, it obviously cannot “use” the works actually concerned in the generation or supply of the electrical energy. Similar difficulties are said to have arisen in the matter of acquisition of land for a lengthy pipe line for transmitting oil, and, in the absence of any such commonsense provision as follows, the agreement is said to have arranged for any person to be allowed to transmit his oil along it ; this, however, is no doubt *ben trovato*. In order to overcome these difficulties it is enacted by section 57 (1) of the Indian Electricity Act that—

- (1) In section 40, sub-section (1), clause (b), and section 41, sub-section (5), Amendment of the Land Acquisition Act, 1894, the term “work” shall be deemed to include of the Land electrical energy supplied, or to be supplied, by means of the work to be constructed. Acquisition Act, 1894.

PARA. 13. So far as "the terms on which the public shall be entitled to use the electrical energy supplied, or to be supplied by means of the work to be constructed," sections 22 and 23 of the Indian Electricity Act and clauses VI to XII of the Schedule should be consulted, together with paragraphs 16 to 18 of this Introduction.

The above summary does not profess to be anything more than a very brief outline of the law relating to the acquisition of land so far as it concerns licensees under the Indian Electricity Act, and where an acquisition is contemplated the licensee is recommended to refer to the Land Acquisition Act itself, even if he does not, as he will probably think it wise to do, seek legal advice.

British provisions.

Although the British Acts relating to the acquisition of land have no force in India it is of interest to note that under the Electric Lighting Act, 1909, the Electricity Commissioners (taking the place of the Board of Trade) may authorize undertakers to acquire land for a generating station under the conditions laid down; until the passing of that Act this could not be done.

PARA. 14.
Early practice.

14. **Aerial Lines.**—An aerial line is defined in the Act [section 2 (a)] as "any electric supply line which is placed above ground and in the open air." Owing to frequent accidents occurring in the United States, when "electricity was in its infancy," overhead construction of every sort was discouraged to the utmost in Great Britain until recently, and with fairly good reason. By not making it in any way incumbent on those who wished to be suppliers of electrical energy to take Parliamentary powers, the Legislature left the gate open for many anomalous proceedings. Those who, in the early eighties, took up and used powers under the Electric Lighting Act, 1882, were bound under stringent conditions in the matter; any company or person was however at liberty to start work, without any statutory power whatever, and, after obtaining way-leaves, to cover a town with a network of aerial lines, constructed on any principle that came to hand or (more often) on none. This was done in many towns, the promoters obtaining or purchasing way-leaves running the risk of prosecution for nuisance and endeavouring always to settle matters out of court.

Conditions in India.

In India, overhead lines are used not only for transmission over long distances but also for low pressure distribution,

though underground cables are also used to no inconsiderable extent. The high temperature communicated to some considerable depth below the surface of the ground during days of uninterrupted sunshine, the extreme alternations of dryness and excessive humidity, the white ants and other insects whose aim in life is to destroy,* and the heavy rainfall are all factors that tell on the life of underground mains, while scarcely affecting properly constructed overhead lines. Culvert systems are useless ; for there is no chance of keeping a culvert dry when the very streets may be several feet under water for days together, and the drains, if any exist, are incapable of negotiating even an ordinary thunder-shower. Armoured cable, laid direct in the earth, and so-called "solid systems" have been used almost exclusively up to the present and with fair results on the whole, depending mainly on the care with which the work of laying the cables is carried out.

The overhead construction first used in India was based on that of the Indian Telegraph Department, more or less adapted to the conditions of electric supply. In its former capacity it has had a trial extending over very many years and most diverse conditions of climate, during and in consequence of which an eminently satisfactory telegraph system has been evolved. The "Hamilton" telegraph poles are made up of sheet metal riveted into 8-foot lengths of tube, and graduated in size and thickness so as to allow the making up of a tapered pole of any height. While possessing great virtues in the matter of cheap freight and carriage, they are far too weak for any but the lightest electric supply lines in ordinary towns, where adequate staying is always difficult and not infrequently impossible. Mild steel tramway poles are far more serviceable, and have been considerably used for aerial lines in towns ; these have been standardized by the "British Standards Institution" formerly the "British Engineering Standards Association" in three classes—light, medium and heavy. For transmission of power the most modern practice, and unquestionably the best, lies in the use of long spans of conductor supported on built-up steel towers ; for every insulator is a source of weakness, and this plan reduces their number.

* It is said that, when a huge girder fell into the Rupnarain River, during bridge construction, some humourist on the staff entered it up as "disappeared, presumably eaten by white ants" ; they have, in hard fact, been known to eat lead and bitumen

PARA 14.

Lattice poles are also now made in one piece, out of girders, by punching slits in the web and then expanding. With solid copper wire the required factor of safety, in conjunction with the allowable deflection in mid-span, limits the safe distance between the supports to a matter of 350 or 400 feet. As the deflection, other things being equal, increases as the square of the span, and as this increase of deflection augments the risk of wires swinging together in a wind, extreme spans are to be avoided. Stranded cables of copper, bronze, steel or steel-cored aluminium are used where necessary for crossing rivers or valleys, and spans of nearly a mile in length are to be found in the United States. The cost of the towers in these extreme spans is a very serious matter.

Alleged
dangers.

The chief objections urged against overhead wires in cities are unsightliness and liability to damage during storms ; the first of these cannot be of much account in the average Indian city—especially when balanced against the advantages of a cheap supply of energy—but the latter merits close attention on account of periodical alarms raised in the Press. The rules (Nos. 58 to 68, and particularly No. 61) deal with the safety of overhead lines ; in addition, the majority of the rules in the early part of Chapter V (Nos. 34 to 57) apply equally to overhead, surface or underground lines, as do many of the special rules for electric traction (No. 69 *et seq.*) and some of those for mines and oil fields (Nos. 84 *et seq.*). The map of India, inserted as Frontispiece to this volume, shows the maximum pressures which may be expected in various zones from observed wind velocities, though cyclones may reach unexpected points ; the rules allow the Local Government to specify the maximum pressure to be allowed for in each instance. See rule 61.

Lack of
efficient
earthing.

The rules make stringent provision for the proper earthing of metal posts, stays, struts and other parts of the structure of an aerial line which may accidentally become charged. This is the chief danger of them, but can seldom come into play except as the result of bad workmanship. It is just as important for private persons to comply with these rules (or, more generally, to see that their contractors comply) as it is for public bodies such as licensees ; the results of neglect are the same in both cases. See the opening of paragraph 33 *post*, where a case is reported from Rangoon.

So far as accidents may occur from the giving way of overhead lines through weakness of material or faults in construction, the remedy is obvious. It may be assumed generally that the licensee's intention is to put up sound mechanical work, in the aerial lines as elsewhere, seeing that nothing destroys confidence more certainly than a breakdown in supply, however inevitable. If this intention could be depended on always, rules as to construction would be almost unnecessary; as it is, they for the most part apply only in "streets" in the wide sense which the definition in the Act [section 2 (m)] gives to that word. It is worthy of note that the poles used in overhead work are often of ample strength, but are so inefficiently fixed in the ground that they easily succumb to a storm.

PARA. 14.
Faulty
material.

If trees are so situated that they may fall over the wires and break them there is no remedy except to remove the trees or the wires. Accidents to overhead lines unfortunately occur as a rule during storms, when the ground is wet, and, whereas the clothes and boots of a European would almost certainly prevent him coming to any harm from contact with a low pressure circuit, other persons, lacking this protection, might even be killed with 100 volts if they should stumble into a fallen, but still "live," wire.

The question of what may be considered a "dangerous pressure" from the point of electric shock, is a much vexed one; and as it is largely a matter of opinion, incapable of authoritative settlement, expert opinion has been greatly divided. It is established that if thorough contact is made and maintained a very low pressure will suffice eventually to prove fatal; whereas persons have received momentary shocks at high pressure and have lived to tell the tale. The pressure in use on most electric tramways, 500 volts, used to be considered just on the borderland between safety and danger to people in ordinary health and under normal conditions; and for continuous current electric traction this has become the standard pressure. The same pressure (in R.M.S. volts) alternating current is very much over the border, as the shock depends on the maximum and not on the virtual voltage.* Even 250 volts alternating requires great care in the handling. Alternating current electric traction is generally associated with high speed and is always a matter of high tension; and the breakage of

Dangerous
pressure.

* For the technical discussion and explanation of these phenomena, the work cited on page 1 should be consulted.

PARA. 14.

trolley wires, which much too commonly occurs on ordinary tramway systems, is often guarded against by the catenary suspension of the trolley wire from a steel "messenger cable."

Automatic
safety
devices.

In the high speed railway trials at Berlin the three trolley wires were so arranged that if any one broke it would be cut out of circuit automatically. Since then various ingenious arrangements have been devised and brought into operation with this end in view, for use both on trolley wires and on overhead distribution, so as to render a broken wire harmless by short circuiting or earthing it. A peculiar accident, which the ordinary short circuiting device would not have prevented, occurred many years ago in connection with a broken overhead service line in Calcutta. One wire broke near its supporting post, and the long end hung over the footpath from the house service bracket. A coolie came into contact with it, with fatal results, the wire being rendered "alive" from the unbroken wire through the fans in the house. This risk has since been provided against by a modified safety device.

There have at various times been accidents due to the falling of telephone or telegraph wires on to "power circuits." The methods of guarding now prescribed by the rules reduce risk from this cause to a minimum, though the guard wires themselves are open to many grave objections; they enormously increase the area exposed to wind pressure, involving stronger supports; in cold climates (*e.g.* in hill stations) they are liable to break from the accumulation of snow; and, where used over trolley wires, they are liable to be torn down by an escaped trolley pole and charged by contact. It is a case of choosing the lesser evil. A cause of several accidents, peculiar to India, is the practice of coating "kite" strings with abrasives, for the purpose of cutting rival kites down; if such strings get entangled with a power or trolley wire, and make a nick in it, any later string will find the same nick and increase it, until the wire is cut through.

Lightning.

The protection of circuits from high frequency surges, whether of atmospheric origin or due to resonance in the circuits themselves, has been the object of much valuable research in recent years. If a line is actually struck by lightning considerable damage is almost certain to result, and it is doubtful if any measure can be devised to prevent this; but the occurrence is fortunately not very common. The disturbances which are induced by a disruptive dis-

charge in the vicinity may however break down the line by the piercing of an insulator, or may damage the apparatus connected to the line ; and the same result may occur from causes within the circuit itself. Many different forms of lightning arrester and of protective device against surges are in use, the object in view being to allow such disturbances to pass away harmlessly to earth while preventing the line current from following. Modern " high-speed circuit-breakers " and " current-limiters " have done much to lessen this danger, which is discussed in the work mentioned on page 1.

PARA. 14.

The cost of insulated cables, laid underground, becomes prohibitive where very high pressures and long lines are involved, and overhead lines are a *sine qua non*. In the case of low tension distribution, apart from reduced cost, the chief advantages are accessibility for inspection, testing, and repairs, and the ease with which the amount of copper and the carrying capacity of the line can be increased. If the poles are made large enough and strong enough for the probable ultimate load, it is a simple matter to remove a small wire to another locality and substitute a larger one, or to erect an extra line of insulators and additional wire. Most electrical experts in the country consider the overhead system the one best adapted for the Indian climate and conditions. With bare overhead construction the cost of " house services " is greatly reduced, a very powerful argument from the consumer's point of view. It was pointed out in a discussion at the Institution of Electrical Engineers some years ago that the cost of an underground service and its accessories is often as high per kilowatt of demand as the cost per kilowatt of the generating plant supplying that power. The objection adduced in European towns of being unable to run all the requisite services from any given pole does not hold good among the widely spaced houses of an average Indian town—this does not of course apply to the poorest localities, but in such the cost of installing electricity is in any case prohibitive.

Advantages
of aerial
lines.

Section 18 of the Act enacts that the licensee must, to begin with, obtain " a general approval in writing of the methods of construction which he proposes to adopt," but this only applies to aerial lines in " streets." This approval does not relieve him of his obligations under the Act with respect to new works, but does clear him, so far as the Government is concerned, unless Government happens to be

Require-
ments of the
Act.

PARA. 14. the "repairing authority" or "owner" also in any particular instance. The power of giving general approval under this section may be delegated to an Electric Inspector (section 55). Having obtained the general approval to his system, the details as regards each line are regulated particularly by the Rules and by sections 13, 17 and 32 of the Act. The special case of "transmission of power," as the term is generally used by electrical engineers, is discussed above in paragraph 12; the term "transmission of energy" used in Part III of the Act has a wider meaning, which includes what is here referred to.

Removal of
trees and
obstructions.

There is provision in sub-sections (3) and (4) of section 18 for permitting the removal of trees under certain circumstances, by the order of a Magistrate or Commissioner of Police. In such cases compensation may be awarded to the owner of the tree. By an amendment made by the Indian Electricity (Amendment) Act, 1922, a "tree" is explained as including "any shrub, hedge, jungle growth or other plant." Furthermore the provision has been extended to cover "any structure or other object which has been placed or has fallen near an aerial line subsequently to the placing of such line." If the tree, structure or object interrupts or interferes with, or is likely to interrupt or interfere with, the conveyance or transmission of energy or the accessibility of any works (*e.g.* supply lines) the aid of this section can be invoked. Under section 29A, which was added by Act XL of 1923, the provisions of sub-sections (3) and (4) and of the *Explanation* "shall apply in the case of any aerial line placed by any railway administration as defined in section 3 of the Indian Railways Act, 1890, as if references therein to the licensee were references to the railway administration."

Dangerous
works.

Section 34 prohibits unauthorized connection with earth,* and gives Government power to interfere in cases of dangerous or defective works, or non-compliance with the Act or the rules thereunder. It need hardly be said that the approval of the system of overhead lines to be used, given before the lines are erected, in no way prevents Government taking action if the lines, or any of them, are subsequently found to be defective or dangerous so as to come under the provisions of sub-section (2) of section 34.

* Connection, that is, of the conductors; the connection of all metal work in any way constituting the *supports* is obligatory on "the person to whom the same belong." See above in this paragraph, "Lack of efficient earthing."

The powers of the Local Government under this sub-section may now be delegated to the Electric Inspector, by virtue of an amendment to section 55, made by the Indian Electricity (Amendment) Act, 1922. PARA. 14.

(The rules dealing with aerial lines will be found in Appendix I.)

15. Compensation and Nuisance.—Section 19 of the Act enacts that— PARA. 15.

A licensee shall, in exercise of any of the powers conferred by or under this Act, cause as little damage, detriment and inconvenience as may be, and shall make full compensation for any damage, detriment or inconvenience caused by him or by any one employed by him ;

and disputes as to the amount or the application of such compensation, are to be determined by arbitration.

In various specific cases throughout the Act the licensee or other persons are liable to pay compensation for default, damage or otherwise, *vide* section 13 (1) (d) and (e), 13 (2), 14 (2) (d), 14 (3), 15 (4), 18 (4), 32 (3) ; and penalties may be imposed as well where there is default, under section 48. In most cases the amount and application of compensation is to be determined by arbitration (see paragraph 23 of this Introduction). Further cases arise in connection with the Indian Telegraph Act, 1885, and the Land Acquisition Act, 1894: see paragraphs 12 and 13 of this Introduction. Compensation.

Nuisance.—A licensee is not by reason of his statutory powers exempt from liability to indictment for nuisance, although this Act contains no provision similar to section 81 of the Schedule to the Electric Lighting Clauses Act, 1899. In the absence of any Indian case law in connection with electricity it may be useful to refer to some cases which have been decided in Great Britain, although the law is not identical in the two countries (see note on section 19). Nuisance.

In *Shelfer v. The City of London Electric Lighting Company, Limited*, the Court of Appeal held that statutory powers were not a sufficient defence in an action for nuisance from noise and vibration caused by the company's central station, and an injunction was granted restraining the company from continuing the nuisance (*The Electrician*, 21st December, 1894, p. 225). [C.A. (1895) 1 ch. 287, (1895) 2 ch. 388.] The following cases also bear on the point: *Knight v. Isle of Wight Electric Light and Power Co.* (*The Electrician*, 22nd January, 1904, p. 541); *Colwell v. St. Pancras Borough Council* (*The Electrician*, 12th February,

PARA. 15. 1904, and L.R. 1904 1 ch. 707); *Westlake v. St. Pancras Borough Council* (*The Electrician*, 3rd August, 1906, p. 629); *Davies v. Rockhouse Hotel Co.* (*The Electrician*, 25th January, 1907, p. 580); *Demarara Electric Co. v. White*, reviewed by the Privy Council, L.R. 1907, A.G. 330; *Edwards v. Brixham Gas and Electricity Co.* (*The Electrician*, 19th December, 1913, p. 462).

In *Midwood v. The Corporation of Manchester* the latter were held liable for damage due to a fire caused by the fusing of a cable, which had developed a fault, and which the Corporation works were endeavouring to burn out in the customary way (*The Electrician*, 24th March, 1905, p. 937). In this case, however, the provisional order contained a clause to the effect that nothing therein contained should exonerate the Corporation from any indictment, action or other proceeding for nuisance in the event of any nuisance being caused by them ((1905) 2 K.B. 597).

A gas company was held liable for damage to electric lighting boxes by an explosion, caused by their workmen searching for a gas leak with a naked light (*Islington Borough Council v. Gas Light and Coke Company* (*The Electrician*, 4th April, 1902, 955)). On the other hand, a gas company was absolved from liability for an explosion in a conduit where the escape of gas was due to general leakage and no negligence was proved (*South Shields Corporation v. South Shields Gas Company* (*The Electrician*, 13th March, 1903, p. 871)).

With regard to nuisance from smoke a licensee would presumably be liable to prosecution even in the absence of special enactments dealing with smoke prevention. A prosecution of the Underground Electric Railway Co., by the Chelsea Borough Council, for permitting black smoke from their generating station at Lot's Road, was dismissed on the ground that the smoke was not black but only dark brown (*Electrical Trades Directory*, 1920, p. 296).

PARA. 16.
System of
supply.

16. **Supply and Use of Licensee's Energy.**—Under clause IV of the Schedule to the Act of 1903 the system of supply had to be approved of by Government, but this provision was repealed in 1910 as unduly restrictive. A licensee may be trusted in his own interest to adopt a well-proved system, seeing that he is responsible for the continuity of the supply. By section 34, as amended by the Devolution Act, 1920 (XXXVIII of 1920), any connection of the system with

PARA 16.

The corporation contended that all they were called on to pay was the cost of altering the consumer's apparatus, and if, as here, the apparatus was one which could not be altered they were not obliged to pay him anything, except perhaps the scrap value of the apparatus rendered useless. The corporation did, in fact, offer the applicant £2, as the value of his old apparatus which he could no longer use. He contended that he was entitled to be paid a sum which would put him in a position in which he could carry on his business of charging batteries as before.

Mr. Justice Goddard, in giving judgment, said that there was no suggestion that in using his old apparatus with direct current for the charging of batteries the claimant was doing something which he was not perfectly entitled to do. He (his Lordship) read the consent as meaning that the corporation must put the consumer into the position of having the same facilities for carrying on his business with the new alternating current as he had had with the old direct current, and must also pay him compensation for any loss or damage which he could prove to have resulted to him from the carrying out of the change.

The award had found as a fact that the cost of supplying converting apparatus which would enable the applicant to continue charging batteries after the system had been changed would be £34 odd, and that damage due to the interference with the applicant's business during the process of changing would be £7 odd. The applicant must therefore have judgment for £41 17s. 4d. and costs.

[*Lakeman v. Corporation of Chester*; King's Bench Division. *The Times*, 3rd March, 1933.]

Under clause X (3) of the Schedule, if the system of charging is altered, the licensee must bear the expense of providing a new meter or such other apparatus as may be necessary by reason of the new method of charging; and no doubt this would be the case also if the new meter were rendered necessary by a change in the declared pressure or of system (continuous to alternating or *vice versa*) or of frequency.

"Area of supply."

The area of supply is defined [section 2 (b)] to mean "the area within which alone a licensee is for the time being authorized by his license to supply energy"; but section 4 (3) (b) permits the subsequent insertion of alterations and amendments in a license, so that, *e.g.*, the area of supply could be enlarged; and section 27 enables Government (conditionally) to authorize a licensee, by order in writing, to supply energy outside the area of supply to persons who enter into a specific agreement to take it. This last-mentioned provision overcomes difficulties which have arisen where a consumer is just outside, or partly within and partly without, the area of supply and where it is not convenient to have the compulsory area of supply enlarged to meet the case. In Great Britain it has been laid down that a supply given to a consumer at a point inside the area of supply may

earth * must be specially authorized by the Local Government by order in writing, unless the case is one which the rules provide for already; this provision applies alike to licensees and non-licensees.

PARA. 16.

In practice, the license itself would invariably specify the system to be adopted, at least to the extent of whether direct or alternating current is to be used—see clause 7 (7) of the Model Form of License in Annexure III to the Rules. Furthermore, under Rules 26 and 27, the “declared pressure” and “declared frequency” of the supply to consumers must be stated, and cannot thereafter be altered without the consent of the consumer unless in pursuance of an order to that effect. These are the only matters in which the system of supply generally affects consumers. In Great Britain, there have been on many occasions changes both from direct to alternating current and from 110 volts pressure to 220 or 230 volts, the consent of the Electricity Commissioners being required to any such change. It has usually been stipulated that the consumer shall not be put to any expense over the change, which is purely for the licensee’s benefit in origin, though its value comes down to the consumer eventually; thus lamps for a different pressure or motors (especially fan motors) for a changed system would generally be supplied by the undertakers. Where the Chester Corporation applied for permission to change from direct to alternating current, consent was given subject to a clause:—

Alteration
of system of
supply.

Unless otherwise agreed, the undertakers shall at their own expense carry out the necessary alterations to consumers’ existing apparatus to suit the altered system and pressure of the supply or pay to each consumer injuriously affected by the alteration of system and pressure such sum as may be agreed or, in default of agreement, as may be determined by an arbitrator to be appointed on the application of either party by the Minister of Transport as the reasonable cost of and incidental to the change of system and pressure, including compensation for any loss or damage incurred in consequence of the alteration.

The Claimant made a business of charging batteries, which could be done very simply with direct current from the mains. Batteries cannot, however, be charged by alternating current; special apparatus (such as a motor-generator or a rectifier) is necessary to convert the alternating current to direct current, and the claimant asked for the cost of this apparatus.

* Connection, that is, of the conductors; the connection of all metal work in any way constituting the *supports* of an aerial line is obligatory on “the person to whom the same belongs.” See paragraph 14, under marginal head of “Lack of Efficient Earthing.”

not be utilized by the consumer outside that area, although the consumer may not be interfered with (*Gas Light and Coke Company v. South Metropolitan Gas Company*, H.L. 62 L.T. 126), and this case might be quoted against electrical companies, although section 6 of the Electric Lighting Act, 1909, provides for such cases in England. The leading case here quoted shows that in Great Britain the respective responsibilities of supplier and consumer quite clearly meet at the point where the supply is delivered—see following page; and that the supplier may not interfere beyond that point. (See paragraph 33.) Apart from ordinary consumers there is the case of bulk supply to distributing licensees, or supply to tramway companies; in both these cases it might be desirable to use the energy outside the statutory area without enlarging it and thus giving other persons a right to be supplied.

Under sections 22 and 23 every applicant is entitled, except in so far as is otherwise provided in the license, to a supply on the same terms as any other person who “in similar circumstances” has “a corresponding supply”; and so long as the licensee does not show undue preference the charges may be such as are agreed upon up to the maximum allowable by the license. This is discussed more fully in paragraph 18 *post* (Charges for supply), and certain knotty points are dealt with in the notes on the section itself.

There is one specific exception in the Act to the general rule giving equal right to all applicants for supply. Under the proviso to section 22 no person having private generating plant is entitled to demand a supply on the usual terms merely as a standby against accidents. This is only equitable, for such a breakdown may occur at a time of stress when the licensee requires all his plant for his ordinary consumers, and it is unreasonable that he should be practically compelled to keep special generating plant and mains unproductive on the chance that a breakdown may occur in the consumer's own plant. In practice such a person would no doubt make terms for the reserve connection, or would agree to pay a higher rate for his current. In a large and well-established concern the matter is not of much moment, but in the early days of an undertaking it might be serious. The proviso in the Act closely follows the wording of section 15 of the (British) Electric Lighting Act, 1909.* As a

* Repealed and re-enacted in modified form by s. 23 of the Electricity (Supply) Act, 1922.

PARA. 16.

stand-by supply only comes into operation when a breakdown occurs to the private plant, it follows that there will normally be no consumption of energy. The "minimum annual sum" referred to in section 22, proviso, clearly has no relation to the ordinary charges for energy or to the "minimum charge for energy" which the licensee is authorized to make by clause XIA of the Schedule (*q.v.*); it is *not a charge for energy* at all, but a charge to cover the interest and maintenance which the licensee incurs for the convenience of the non-consuming consumer. Clearly if no breakdown ever occurs, the licensee might be put to heavy capital expenditure and never receive any return whatsoever on it. The minimum charge of (say) Rs. 20 authorized in many licenses under the above clause XIA would be very inadequate to meet such a case and is not intended to meet it.

Point where
supply
begins.

By an amendment introduced by the Indian Electricity (Amendment) Act, 1922, the actual point where any particular supply is deemed to be delivered by the licensee and received by the consumer is to be "prescribed" by rule (section 19A). The matter is by no means so simple as it may look. At first sight the meter would appear to be the crucial point; but in many cases only one wire of the circuit enters the meter, so that the other one would not be provided for; or there may be no meter installed. In the rule (31) the matter is dealt with by prescribing arbitrary points to meet either case. If a fire should occur near the point of entry of the supply, it becomes important to fix the responsibility for it. In the Author's opinion, which he has repeatedly urged, the licensee's cut-out's, inserted at the termination of the service line (Rule 38), are the *only* rational point to fix upon for this purpose, as now adopted in Rule 31 (*b*) to meet the case where there is no meter; but he was unable to carry the point owing to opposition from Bombay. The plain interpretation of the rule in question is that the respective responsibilities of the licensee and the consumer meet at this point where the supply to the latter begins; some doubt has been cast on this by the findings in the appeal of *Rangoon Electric Tramway & Supply Co. v. King-Emperor*, discussed in paragraph 33 *post*. But, as shown in the comments on that case, the issue was not clear-cut, since both licensee and consumer had failed to comply with the rules.

Requisitions
for supply.

The question of charges, and of undue preference and rebates, is dealt with in paragraph 18 of this Introduction,

“Charges for energy.” The detailed conditions under which a supply may be demanded will be found in the Schedule, which must now be considered in this connection.

PARA. 16

In any case where a supply of energy is required (other than for public lamps, or in bulk) the applicant should refer to clause VI of the Schedule, where the conditions under which the supply will be given are set forth in the form of a clause with provisos. The applicant must make a signed requisition for the supply—a suitable form is annexed to the Rules—and the licensee must comply with the requisition within the time allowed and must continue supplying thereafter unless prevented by unavoidable calamities or certain faults of the consumer. The substance of the provisos is as follows :—

First, conditions precedent.

- (a) An agreement must, if asked for by the licensee, be entered into with security, so as to give the licensee a “reasonable return” on his expenditure for not less than two years.
- (b) The service line on the applicant’s property, and all of it in excess of 100 feet from the distributing main, must be paid for if the licensee so requires. The licensee, it will be observed, can waive either or both of these conditions; but he will usually insist on them. As to the agreement it will generally contain many other matters than those mentioned, some of which may not be enforceable in law. The condition as to paying for the service line would be waived if the parties agreed that it should be put in on hire or hire-purchase terms (as it could be, without infringing the law), but in such circumstances the agreement should contain suitable safeguards for the payment of the hire or the instalments. See the notes on this clause after the text, page 294.

Secondly, conditions of continuing supply.

- (a) Security may be demanded, if not already given, or if it has become invalid or insufficient.
- (b) The consumer must not use his supply to the detriment of others. Also (under section 26

PARA 16

(3) of the Act) he must keep the meter in order *if it is his property*.

(c) The wiring, etc., must be in good order so as not to affect injuriously the use of energy by others.

(d) Alterations and additions must be notified.

For examining the consumer's installation with respect to these and other matters section 20, sub-section (3), gives the licensee extended powers since the amending Act of 1922 was passed. Sub-head (c) of the above list is of particular importance. The law clearly does not throw on the licensee the onus of seeing that a consumer's installation is put up and maintained in a proper manner, nor was this intended; the rules (*vide* 41, 42, 44, 45 etc.) make the *person to whom the installation belongs*—the owner of it in the plain undefined meaning of the word, as often used in these rules—responsible for its condition. But the licensee has the right to test and inspect the installation, and if he finds excessive leakage he may (under stringent safeguards) refuse to connect it up or to continue supply to it (Rules 23 to 25), while he may also ensure that his own supply to other persons is not interfered with. He has rights; but he is under no legal obligation constantly to examine thousands of consumer's installations, which would be palpably impossible as a business matter, and would be a gross interference with the consumers—see next page.

Thirdly, the consumer's maximum demand must be reasonable and may not be increased without notice; if increased lawfully, the cost of altering the service lines must be paid for to the extent laid down. The original maximum demand will be that specified in the agreement.

Fourthly, supply may be temporarily refused if the distributing main is overloaded.

Until amended in 1922, clause VI of the Schedule only applied when the applicant's premises were within one hundred yards of a distributing main; now the premises may be anywhere within the area of supply. Clearly, however, the cost of the service line might be very heavy if the distance were great. In that case the applicant is at liberty (in conjunction with other owners or occupiers) to make a requisition for laying mains under clause V of the Schedule. Disputes between the licensee and the

Requisitions
for laying
mains.

prospective or actual consumer over any of these matters are to be settled by the Local Government or arbitration, in the case of clause V, or, in the case of clause VI, by the Electric Inspector. In consequence of the recent amendment of clause VI the following clause VII of the Schedule has been much curtailed. It now provides that before the licensee lays down a "service line in any street in which a distributing main has not already been" placed, notice must be given to the local authority, and to all owners and occupiers on the route traversed, so that they may combine and apply for connections at the same time, in which case a distributing main would be laid. Where such a main already exists in the street no such notice is necessary, as is clear from the text.

PARA. 16.

Clause VIII of the Schedule (as amended in 1922) enables the Local Government or local authority to requisition a supply of energy anywhere within the area of supply for "public lamps," defined in section 2 (k) as "Electric lamps used for the lighting of any street." The conditions are practically synonymous with those for individuals who claim a supply under clause VI, except that the guarantee must extend to 7 years at least. Charges are to be settled by agreement or arbitration, see paragraph 18 *infra*.

Clause IX, as to supply in bulk, is discussed in paragraph 17, and as to charges see paragraph 18.

The licensee may not (section 21) prescribe any special form of appliance to be used by the consumer, nor may he control, or interfere with the use of, energy. Under section 26 (7) the licensee may, however, place check meters or other apparatus on a consumer's premises. This, although it may be considered interference, and is control of a kind, is likely to be beneficial to the consumer, for a check meter will show if the regular meter is correct or not, and a volt-meter will show whether the pressure is constant or not. Any other such apparatus put in by the licensee will probably be for the purpose of assessing the charge by some method other than the ordinary one, to which the consumer need not agree unless it is to his advantage (Section 23 (3) (c).*) Also clause X, first proviso—see para 18). If, however, a maximum demand indicator, time switch, two-rate

* Section 23 (3) has been imported here from Clause X of the Schedule to the Act of 1910, by the Indian Electricity (Amendment) Act, 1922.

PARA. 16. meter or any such special device for *assessing the charges* is installed by agreement, then it is incumbent on the licensee to keep it "correct"—section 26 (7), second proviso and "Explanation" at end of section ; also section 44. As to cutting off the supply see the latter part of this paragraph.

Licensee's
conditions
of supply.

It has always been customary for electric supply authorities, both in Great Britain and India, to issue so-called "rules" purporting to bind the consumer, giving in considerable detail the way in which the consumer is to wire his premises and so on. A licensee may demand that the prospective consumer shall enter into an agreement, in a form to be approved by the Local Government, to take a supply for two years and to give security to that effect ; but he may not prescribe any special form of appliance nor may he control or interfere with the use of energy. No doubt as a guide to the non-technical consumer these so-called rules had a value. In Great Britain such licensee's rules have never received legal sanction, but the custom has now been legalized in India by the Indian Electricity (Amendment) Act, in section 21 of the Act, in which the second and third sub-sections were inserted in 1922. The conditions of supply as authorized must not be inconsistent with the Act, the rules or the license ; they require the previous sanction of the Local Government both for their introduction and as to their contents, so that in practice the onus of ensuring that they are unobjectionable will lie on the Electric Inspector. A model form, by no means perfect, but very useful as a general guide, has been prepared by the Electrical Adviser to the Government of India in consultation with the Electrical Engineers and Inspectors to Government ; it is printed in Appendix II to this volume, omitting the extracts from the Act and the rules which should be printed in any actual "conditions."

Consumer
not to inter-
fere with
supply.

The consumer must, however, be careful himself not to infringe the Act. For just as the licensee may not interfere with a consumer, so may the latter not adopt any form of appliance, or use the energy supplied to him, so as unduly or improperly to interfere with the supply by the licensee of energy to any other person (section 21 (7) proviso) ; and, if he does so, the licensee is entitled to discontinue the supply under clause VI (7) of the Schedule, second proviso, sub-head (b). Under clause VI (3) the Electric Inspector has to settle any consequent dispute. A refusal to mitigate

the interference would render the consumer liable to penalties under section 47, and the licensee can obtain power of entry to the premises under section 20 (2) to examine and test the consumer's wires, etc. The "conditions of supply" of the licensee generally have for their object the protection of the supply to others. For example, it is customary to stipulate that, on a three-wire system, an electric motor above a certain rating shall be designed to run on the outer conductors, at double the ordinary supply pressure, simply because otherwise it is likely to interfere with the supply to other people. If the licensee refused to connect up such a motor, he could probably be compelled to do so by law, unless the contract or the authorized "conditions of supply" provided otherwise; but if the motor then caused unsteadiness of pressure the licensee would equally have a remedy against the consumer [Schedule, clause VI (7), second proviso, sub-head (b)]. The same may be said with regard to the ordinary requirements as to balancing the circuits of a three-wire or three-phase distribution system; these are not provided for in the Act or rules, and so long as the consumer does not do anything which may interfere with the supply to the other consumers it is doubtful if he would be penalized under section 47.

Under the following marginal heads (Refusing to supply; Cutting off supply) the necessity for good installation work in buildings is emphasized, for the protection both of the owner of the building and of other consumers and the licensee. The quality of much of the wire and of many of the accessories used in India is extremely bad; and the workmanship and supervision are in such cases generally on a par with the material. The technical advisers of the Bombay Government have for many years advocated the compulsory licensing of wiring contractors, in order to ensure good work and to reduce the risk of fire. By a new rule 40-A (in Appendix I) this can be effected in any Province which, under sub-rule (2), adopts this rule. There are many arguments *pro* and *con* such a provision, and the matter was discussed at the various Conferences of Electric Inspectors held under the chairmanship of the Author, but no general agreement has yet been reached in this vexed question. The *capacity* to do good work; to get a license from the Local Government; and to obtain a "certificate of competency" may be there: but it does not follow the work subsequently done will be up to standard. In point

Internal
wiring and
licensing
of contractors

PARA. 16.

of fact it seldom is. But the license and the certificate will be taken by the purchaser as of the nature of a Government guarantee, which it is not intended to be. The rule is in force in Bombay Presidency and in some other Provinces, but not in Madras, the United Provinces, or Burma. Rule 106-A was added at the same time to provide a penalty for the breach of the rule, where it has been brought into force. Both these rules have been amended since the third edition of this work was published in 1930.

Refusing to
supply.

If an installation is not properly wired, the risks of fire and shock demand attention. The licensee often refuses to connect up an installation, relying on rule 23 which specifies the allowable limit of leakage and which permits him to cut off the supply if this limit is exceeded. It is perhaps hardly necessary to remark that actual leakage is a very uncertain guide to the class of work that has been installed in a building, important though it is in the case of plant and mains. In India, especially, during the dry season, insulation tests are invariably good, however badly the work may have been carried out; while during the monsoon months surface leakage over the accessories to the wiring renders it extremely difficult to maintain high insulation resistance with the very best work. Consumers are apt to attach far too much importance to the licensee's test, preparatory to connecting an installation to the mains. It is generally preceded by a more or less perfunctory examination of so much as is visible of the wiring, but the object is the protection of *the licensee's own works and his supply to other consumers* and not (except incidentally) the protection of the applicant for supply in question. The acceptance of the work by the licensee after testing it is in no sense a certificate that the work is sound. *This is the consumer's own business* and that of the fire insurance company concerned. To quote the opening words of the rules issued by the Insurance Company which was the pioneer in this matter, rules which were first published in 1882 :—

Fire risks.

The Electric Light, in the opinion of the Phoenix Fire Office, is the safest of all illuminants, and is preferable to any other, when the installation has been thoroughly well put up to its satisfaction and the particular system has its approval.

These words, in the general opinion of experts, are equally applicable where power and not lighting is in question; and the converse also is not far from the truth. A badly designed and carelessly installed system is apt to be dan-

gerous in more ways than one. Indian insurance companies appear to accept the fire risks of shoddy work with equanimity; while the further and ever-present chance of fatal shock is nobody's concern. This latter is due usually to failure properly to earth metal work in the neighbourhood of live circuits, from which it becomes accidentally charged—see rule 42, which throws the onus of such earthing on the “person to whom the same belongs.” The lead covering of house wires in systems employing it are a case in point; if the lead is not efficiently earthed, it is *bound* to lead to danger, apart from the fact that it will inevitably fall to pieces from corrosion in a short time. Metal poles, stays, etc., also must be earthed; and *maintained* earthed; by the person to whom they belong (rule 41). The model Form of “Specification for Electrical Works,” which was printed in the First Edition of this book, was the result of a good many years' experience in India, and it has undergone many revisions; it has now been omitted, as in its latest form it will be found in a separate volume.* Strict compliance with the “Regulations for the electrical equipment of buildings” of the (British) Institution of Electrical Engineers (commonly known as the “I.E.E. Wiring Rules”) which are included in the specification by reference, should at least be insisted on in all cases by consumers as an essential part of any contract they enter into for wiring.

PARA 16.
Shock risks.

Before a licensee examines and tests an installation with a view to coupling it up to the mains, the wiring contractor should have done the same; otherwise, if the licensee finds defective work, he may charge a fee for a second test. The tests usually consist of (a) a test “between poles,” *i.e.* from wire to wire of the installation, with all apparatus removed, and (b) a test of the whole of the wiring to “earth.” For the latter, the testing instrument has a connection to a good earth, or should have; but the Author met with a case where the contractor had an “earth wire” all ready connected for the licensee's test which gave abnormally good results—until it was found that the “earth wire” was connected on to a dummy gas-meter standing on insulators!

A supply may also be temporarily refused on an Electric Inspector's certificate that the distributing main, from which the supply is required, is already fully loaded or that if the

* Electrical Engineering Practice, by J. W. Meares and R. E. Neale; 4th edition of Vol III and 5th edition of Vols I and II, Chapman & Hall.

PARA 16
—

supply in question is given the consumers in the neighbourhood will not obtain their proper pressure (Schedule, clause VI (1), fourth proviso). A licensee may also refuse to give an unconditional supply to premises having an independent supply, and only requiring a reserve connection ; in order to obtain this the consumer must agree to pay a minimum annual sum sufficient to give the licensee a reasonable return on his outlay (section 22). This matter is further discussed in paragraph 18.

Where a requisition for mains (involving a supply subsequently) is made under clause V of the Schedule, the licensee need not accede to it unless he receives an adequate guarantee. Similarly, under clause VI, the applicant must not only give a guarantee but must also, if required so to do (see page 75), pay for certain specified parts of the service line as conditions precedent. These latter conditions apply equally to a requisition for supply to public lamps under clause VIII and to extensions of an existing private supply under the third proviso to clause VI (1).

Cutting off
supply.

Apart from the right to cut off the supply under rule 24, where there is serious leakage, there are several cases enumerated in clause VI (1) of the Schedule where the supply may be discontinued. Under the second proviso to that clause, sub-head (a), this may be done if the consumer fails to give security for payment of monies which may become due by him, whether demanded at the time the supply is first given or subsequently. Under the same proviso, sub-head (b), the supply may be discontinued if the consumer adopts any appliance or uses the energy supplied to him so as unduly or improperly to interfere with the efficient supply of energy to any other person (see p. 78). Under sub-head (c) of the same proviso the supply may be discontinued if the installation is not in good order and condition and is consequently liable to affect injuriously the use of energy by the licensee or by other persons. Under sub-head (d) the notification of extensions to an installation is a condition of continuing supply. In the case of supply to public lamps the licensee has the same power of cutting off the supply as he has with a private consumer, the above provisos being incorporated by reference in clause VIII.

If the consumer refuses to allow the licensee access to his premises, or hinders him from doing what he is authorized to do under section 20, the licensee, under the third subsection (as amended in 1922) may cut off the supply for so

long as the default continues, but no longer. Finally, the supply may be cut off by the licensee where the consumer neglects to pay any sums (not necessarily for the value of energy supplied) due from him to the licensee (section 24), subject to the conditions in the second sub-section and its proviso, as amended in 1922. Clause XV of the Schedule and the rules under the Act allow some latitude for temporary discontinuance for testing purposes, and the licensee is protected from liability where a stoppage of supply results from causes beyond his control (clause VI (1) of the Schedule, substantive portion).

In no other case may the supply be discontinued, and, if it should be, the consumer would have a remedy in the Courts. Cases have been mentioned of a company cutting off supply for non-payment of charges, where the consumer based his refusal to pay on the ground that the pressure has varied beyond allowable limits. A consumer is not entitled to take the law into his own hands; in such a case he should take proceedings against the licensee for the alleged default; and, if necessary, he should call on the Electric Inspector to make the necessary tests on his premises. (See also paragraph 33 *post.*) If one and the same person is a "consumer" with respect to several different premises, and, while paying his bills for the supply in one, neglects to pay them in another, it is probable that the supply can be cut off both where the default occurs and also in other and distinct premises owned by the same person; this at least was the decision of the Small Cause Court in a case tried in Calcutta (*Suraj Prasad Singh v. Calcutta Electric Supply Corporation*; March, 1914). The case was not carried to appeal and is not therefore conclusive. It may, therefore, be noted that section 18 of the (British) Electric Lighting Act, 1909, definitely allows the undertakers to refuse to supply other premises of a consumer whose payments are in arrear.

In case *Lala Durga Das v. Lahore Electric Supply Company*, tried in the Small Cause Court, Lahore, on 14th April, 1917, the Judge awarded damages against the licensee for illegal disconnection of the plaintiff's premises. The licensee cut off the supply because the consumer refused to pay the customary charge for renewing the licensee's main fuses, which had melted. The licensee maintained that the melting was due to a defect in the plaintiff's installation, but this question of fact was not decided one way or the

PARA. 16. other. The Judge agreed with the plaintiff's argument that the words "any other sum due from him to a licensee" in section 24 (as they stood in the unamended Act at that date) were merely tautological—see notes on that section of the Act, *infra*. On appeal to the Chief Court of Lahore the Court "did not think it necessary to decide the point whether the charge, if a legal one, was one for non-payment of which the licensee would be entitled to disconnect under section 24, because the sum was not due." The licensee's cut-outs installed under rule 37 of the Indian Electricity Rules, 1911, were held to be a part of the "service-line" as defined, reading in the included definition of "electric supply line." Therefore, the licensee, under clause VI (2) of the Schedule to the Act, had to maintain the fuses along with the service line, and any charge made for renewal of the fuses, although customary, was illegal. The judgment of the Lower Court was therefore upheld. The amending Act of 1922 has since made the meaning of the words "other sum" perfectly clear. The undecided question of fact in this case could seldom be conclusively proved one way or the other. The fuses melt either (a) owing to a short-circuit in a lamp or other apparatus; or (b) owing to conditions of overload occurring on a motor, not necessarily due to a default; or (c) owing to climatic conditions having caused the fuse wire itself to deteriorate; or (d) owing to some actual defect in the wiring, generally a short-circuit in a defective flexible wire. Expert evidence alone could determine which of these causes is responsible. The action is a protection to the owner of the apparatus, from shock or fire. If, for instance, the lead covering of house wiring is properly "earthed," and the conductors become also accidentally connected to earth through abrasion or fracture, then the fuses will melt and call attention to the fault. If the lead covering is *not* efficiently earthed, shocks will be suffered in the like circumstances.

Supply to be
constant.

Subject to what is said above, the supply, when once given, is to be constant, and a penalty is provided in section 42 (b) if it is not so maintained. The rules also provide that both the pressure of supply and, in the case of alternating current, the frequency, must be kept within specified limits, failing which the penalty provided in the rules themselves, under the authority of section 37 (3) of the Act, may be enforced. The licensee is not to be "held responsible for any interruption or irregularity in the supply of energy

which may be occasioned by, or required by the Electric Inspector" in connection with the testing of "works." PARA. 16.
—

17. Supply of Energy "in bulk."—In paragraph 6 of this Introduction it is pointed out that a license could not be given for "bulk supply" under the Act of 1903. It was this circumstance which led to the amendment of the Act of 1903, and, though a slight alteration in section 3 of that Act would no doubt have removed the difficulty, it was considered advisable to take the opportunity to put the question on a proper footing and to show that bulk supply—by whatever name it is called—is contemplated. PARA. 17.
—

With the question of supply in bulk, the supply of energy on a large scale to ordinary consumers, for power purposes, is also involved. The first legislation on the subject was in the British Parliamentary Session of 1900, when a number of special Acts were passed. The Chairman of the House of Commons Committee which considered the Bills was Sir James Kitson, and after much evidence had been given the following announcement was made:— British
practice.

The Chairman said he wished to state for the Committee that the value of electrical energy as a means of power had been amply demonstrated, and its importance to industries in this country (Great Britain) was admitted. The Committee felt that it was to the public advantage to facilitate measures which would ensure a general supply of electrical power to all consumers who might seek to avail themselves of the economy and efficiency offered in the service of these sources of the application of the power. (*Electrician*, May 25th, 1900, page 187.)

Many special "Power Acts" have been passed in Great Britain since, but the general lines followed have been based on the recommendations of the Joint Select Committee of 1898 on "Electrical Energy (Generating Stations and Supply)" and on the clauses framed to meet the views of Sir James Kitson's Committee. Generally speaking, the companies' supply of energy is limited to two cases: sometimes only to the first of these, *viz.* :—

- (a) The supply of energy in bulk to authorized undertakers or distributors; and
- (b) The supply of energy to any person for power.

As regards (a), the energy supplied to authorized distributors may be used by them for any and every purpose. In the case of (b), the energy supplied to any person for power

PARA. 17. purposes may be used by that person for lighting any premises on any part of which the power is utilized, but otherwise the power company is not allowed to supply for lighting so as to compete with other statutory undertakings ; and in some cases the Special Acts lay down a definite relation between the amount of energy which may be used for lighting and power respectively within the area of supply of any authorized undertaker or distributor, as, *e.g.*, that the units consumed for lighting must not exceed 20, sometimes 30 or even 50, per cent. of the total supply. Beyond these general points of agreement the British Special Power Acts fall into groups according to the special clauses inserted to meet the opposition of the opponents in each case. A number of special clauses added in British enactments and orders relating to bulk supply are discussed in the Legal Digest of the annual "Electrical Trades Directory and Handbook," published by the *Electrician*.

Provisions in
the Indian
Electricity
Act.

To return now to the Indian Electricity Act, the deficiencies in the legislation of 1903 have been made good. At that time procedure by special Act seemed to be the only practical course, as sufficient experience was not available to deal with the matter adequately otherwise. No such special Acts were passed however. As regards the detailed conditions under which supply may be given "in bulk" to distributing licensees, clause IX of the Schedule should be consulted. It is based particularly on the Scottish Central Power Act, 1903, but the provisions are more or less standard ones in British Special Acts for bulk supply. The clause can of course be modified in any license to meet the special circumstances appertaining to any particular case, but it serves to indicate the general lines to be followed. In a license for "bulk supply" exclusively, this clause automatically takes the place of clauses IV, V, VI, VII, VIII and XII of the Schedule, as shown by the proviso to section 3 (2) (f) of the Act, and in a license covering both bulk supply and supply to ordinary consumers the alternative provisions would apply, *mutatis mutandis*, in each case. That such combined undertakings are contemplated by the Act is made clear by the opening words of clause IX of the Schedule. The case of large power users, such as persons controlling mines, factories, tramways, etc., is left to the ordinary operation of the Act. They are merely consumers ; but in the matter of price they can be specially catered for as shown in paragraph 18.

Section 10, which allows the compulsory purchase terms of the Act to be varied, has been amended so as to admit of their omission either wholly or partially, subject to such conditions as may be imposed. Clearly no local authority or group of local authorities would ever be in a position to purchase an undertaking with such an extended area of operations as a power company, supplying power in bulk to a group of separate licensees acting as "authorized distributors" of the power. In such a case the works within any one local authority's jurisdiction would generally consist of a sub-station and a short length of transmission line: the greater part of the line and the generating station might be at any distance up to 200 miles or more. Nor again would a Local Government be likely to purchase such a concern; indeed the trend of opinion is rather in the direction of Government setting up large hydro-electric stations (*e.g.*, as in the Punjab and Madras) and then handing them over to companies for working on a commercial basis. It seems likely therefore that the purchase terms will be omitted in cases of bulk supply.

PARA. 17.

Compulsory purchase of bulk supply undertakings.

It is probable that a sliding scale would be imposed in the case of an undertaking relieved from compulsory purchase; and the "Committee of Amendment" (see pages 13, 14) suggested that the terms in any such case should be referred to an "Advisory Board." Under such a system the licensee would have to reduce his rates to the consumers generally in order to increase his dividend beyond a certain predetermined standard; and, conversely, he would be obliged to declare a lower dividend if his average rate of charge exceeded a predetermined standard. The sliding scale is well known in connection with gas undertakings, but for the benefit of the uninitiated the following example (Table I) will make the matter plain.

Sliding scale.

Let the standard dividend be assumed at 15 per cent. In England it is naturally lower than this—generally it is 8 per cent., sometimes 10 per cent.—and the Author prefers to express no opinion as to what would be a fair standard in India. Assume also the standard rate of charge to be $2\frac{1}{2}$ annas per unit on the average. Let an increase or decrease of $1\frac{1}{2}$ per cent. above or below this standard rate of charge correspond, inversely, to a decrease or increase of $\frac{1}{2}$ per cent. in the permissible dividend. The following table then shows the result which would ensue, calculated

PARA. 17. — for successive increments of 1 per cent. from 10 to 25 per cent., the rates being given to 3 places of decimals.

TABLE I.
ILLUSTRATING SLIDING SCALE.

	Dividend payable, per cent.	Average rate of charge per unit.
	25	1.750
	24	1.825
	23	1.900
	22	1.975
	21	2.050
	20	2.125
	19	2.200
	18	2.275
	17	2.350
	16	2.425
Assumed standards	15	2.500
	14	2.575
	13	2.650
	12	2.725
	11	2.800
	10	2.875

It will be clearly seen that by means of a sliding scale the consumer benefits *pari passu* with the licensee, where the undertaking is prosperous, while the country at large benefits both directly from income tax and indirectly from industrial progress, a point which at the present time seems in danger of being overlooked in certain Provinces, see pages 91, 132-133.

Profit
sharing.

Another method of dealing with undertakings not subject to purchase is that of profit sharing, and this is particularly applicable in the case of hydro-electric plants. Here the initial capital charges are invariably high owing to the necessity of fully developing a site in advance, whereas the load only comes on gradually. A tax on the water passing through the turbines, or on the horse-power developed, has hitherto hindered such schemes considerably at the outset. If, however, the undertaking is allowed to develop freely until it reaches the stage of paying a fair return on capital, the owners will then be in a position where they can afford to pay an incremental share of their profits into the common purse. Taking the standard post-war dividend in a case

of this nature at (say) 12 per cent., a proportion of all profits beyond would be paid to Government. It would, of course, be necessary to guard against financial jugglery, which is only too common; thus the limits of annual payment to reserve and depreciation funds would have to be laid down. The assessment of the company for income-tax would probably form the best actual basis of the charge, rather than the declared dividend. It would, of course, be open to the company so to reduce its charges that its profits would never appreciably exceed the standard amount; but this would be of unqualified benefit to industry and would actually be far more advantageous to Government than the sum lost. As an example of how such a proposal would work out in practice the following may be examined, based on a capital of 100 lakhs of rupees. Here (see Table II) the proportion of the increment of profit taken by Government is assumed to vary evenly from one-third, when the standard profit is first exceeded, to one-half when 18 per cent. profit is reached; and so on in proportion. Round figures are given.

PARA. 17.

TABLE II.
ILLUSTRATING PROFIT SHARING.

Assumed profits.	Increment over standard.	Proportion of increment to Government.	Amount payable to Government.	Amount remaining to company.
Lakhs.	Lakhs.	—	Lakhs.	Lakhs.
12-00	—	—	—	12-00
13-00	1	0-36	0-36	12-64
14-00	2	0-39	0-78	13-22
15-00	3	0-42	1-26	13-74
16-00	4	0-45	1-80	14-20
17-00	5	0-475	2-38	14-62
18-00	6	0-50	3-00	15-00
19-00	7	0-53	3-71	15-29
20-00	8	0-56	4-48	15-52

18. Charges for Supply and Meters. — Questions as to supply having been disposed of in the two preceding paragraphs we may here consider how the value of that supply is to be ascertained and paid for. It will be observed that, by the amending Act of 1922, what was originally the

PARA. 18.

PARA 18. substantive part of clause X of the Schedule to the Act has now become a part of section 23 of the Act itself, *viz.*, sub-section (3), while a new sub-section (4) has also been added.

Methods of
charging.

By section 23 (3) the licensee may, in the absence of an agreement to the contrary, charge for energy supplied by him to any consumer :—

- (a) by the actual amount of energy so supplied, or
- (b) by the electrical quantity contained in the supply, or
- (c) by such other method as may be approved by the Local Government :

that is (a) by the true kilowatt-hours, or (b) by the ampere-hours at the assumed standard pressure at the consumer's terminals. The basis of charge or "unit"—generally called the Board of Trade unit—is a kilowatt-hour or one thousand volt-ampere-hours; "watts" being the rate of expenditure of energy represented by the product of pressure into quantity, or volts into amperes. Where the supply is alternating current true watts are naturally to be measured, not apparent watts; but for the explanation of this distinction the Author's other works, already cited, must be consulted. Any consumer who objects to a method of charge which has been duly sanctioned under clause (c) may demand to be charged instead by one of these two direct "flat rate" methods (a) or (b), in accordance with what has now become clause X (1) of the amended Schedule.* The licensee must give notice as to the method of charge he intends to adopt and may not change this method without giving the prescribed notices (Schedule, clause X (2) as amended). Special methods of charging (clause (c)) may take account of the consumer's load factor; of the power factor of that load; of the total consumption; and of the hours at which energy is used [(section 23 (3))]. This is important in connection with undue preference, discussed further on in this paragraph.

Public
lighting.

The charges for public lighting are to be settled by agreement or arbitration as the case may be (Schedule, clause XII). It is a mistake to insert the agreed terms for public lighting in a license, as has sometimes been done, since any subsequent change would involve an amendment of the license with all its attendant formalities. A separate

* This is no longer the case in Great Britain.

agreement is preferable, as it can be revised at any time between the parties concerned. PARA. 18.

If at any time after the expiration of seven years from the commencement of the license the Local Government considers that the *maximum* rates fixed or approved should be altered, then clause XI of the Schedule gives it power to alter them. Such an alteration may evidently be either in the form of an increase or a decrease; during the war nearly every electric supply authority in Great Britain had to increase its *actual* charges, and in some cases the *statutory maxima* had to be raised. By an amendment introduced by the Indian Electricity (Amendment) Act, 1922, the Local Government, before taking action of this nature, must "refer the matter to an Advisory Board, and, if the Board recommends any alteration, may make an order in accordance with such recommendation." This amendment in the law was introduced in consequence of the fear expressed by the industry that the value of an undertaking might be deliberately lowered by means of reducing the maximum charges to an unremunerative level, so that the undertaking could then be purchased cheaply by the same Local Government or its nominee. In the third edition of this work, the Author at this point wrote: "It cannot seriously be contended that such a method would be adopted." More recent events have cast a doubt upon the wisdom of this forecast. Probably a more potent factor in the situation was the actual enquiry into the proposal to reduce the maximum rates of the Calcutta Electric Supply Corporation, urged by the Calcutta Trades Association. The results of that enquiry showed conclusively that the agitation was based on a complete misunderstanding of the conditions.

In order to allow elasticity to meet circumstances as they arise, such as increases in the cost of fuel or wages due to war or strikes, the *maximum* rates are always made fairly high for a new and untried undertaking; and there is seldom any reason for interfering with it afterwards. For if these maximum rates were actually charged, it is likely that the licensee would fail to find new consumers, and the undertaking would collapse in insolvency. Electricity like other commodities is subject to the law of supply and demand, which cannot be amended or repealed, and the *actual* charges (as distinct from the sanctioned *maxima*) are based on that principle; they are almost invariably far below the maxima. But they must be such as will give a fair

Alteration of
maximum
charges.

PARA 18. return on capital after paying all working expenses and setting aside suitable amounts for depreciation, obsolescence of plant and reserve. Otherwise the prospects of obtaining fresh capital for extensions becomes gloomy. And if one undertaking is unable to do this, owing to the arbitrary reduction of its actual selling rates, the reaction on all other licensees and on the investors to whom they look for additional capital, is no less certain. Two Advisory Boards were constituted in 1932-33 to advise different Local Governments in this matter of *maximum* charges; their recommendations have caused grave misgivings among shareholders (mostly Indian) of the companies concerned, for in both cases the actual rates charged, and not only the legal maxima, have come under review. The original intentions of Government regarding Advisory Boards, and the changes made in the law, are dealt with in paragraph 25 of this Introduction, under "Advisory Boards."

It may be noted that more than one maximum charge may be sanctioned; for instance, to meet the case of large power users or distributing licensees, a low maximum might be inserted to apply to such persons, in which case the minimum consumption of energy needed to bring this special maximum into force would also be stated.

Minimum
charges.

A new clause XI-A, added to the Schedule by the Indian Electricity (Amendment) Act, 1922, legalizes the customary "minimum charge." Most extant licenses contain a provision that the licensee is authorized to charge for the first [20] units the sum of [twenty] rupees, and beyond this minimum at the usual rate not exceeding the maximum. There can be little doubt that such provisions were valid; but their validity has never been tested in the Courts in India, and doubts were cast on the matter in Bombay. The argument adduced, namely, that a charge for energy cannot be made unless some energy, however small in amount, has been used, leads to an absurdity. The minimum charge—generally 13s. 4d. per quarter—has long been in force in Great Britain, although it has often not been charged; indeed it is doubtful whether it is advisable ordinarily to charge it. Nevertheless it has a substantial foundation, *viz.*, that every consumer's installation involves the licensee in a certain amount of capital expenditure in plant and mains, on which he is entitled to a reasonable return [Schedule, clause VI (1), first proviso, sub-head (a)]. It was decided by a Divisional Court in England that the charge is legal

(*London Electric Supply Corporation v. Priddis* (1901), 18 T.L.R. 64). PARA. 18.

Electricity differs from gas in that while the latter can be steadily generated throughout the 24 hours, and stored in huge gasholders until it is wanted, the former has to be produced as it is required—storage, in the sense of gas storage, is of course impossible, and chemical storage in batteries is very limited in its scope. Consequently, from the point of view of the producer of electrical energy, a steady load all day and all night is the ideal condition; but except in the case of industrial operations, such as chemical works, this is not attained. Many systems of charging for energy have been devised with a view to encouraging consumption during the hours of least load and of making the consumer pay according to the cost of supplying him, which differs greatly in different cases. Some of these ingenious systems have the defect that the consumer entirely fails to understand them. The consumer who is profitable to the undertakings, and purchases his supply at a low rate in consequence, readily accepts any method of charge giving him an apparent advantage over his neighbour; but the neighbour, at the other end of the scale, considers the method unfair and preferential. The various special systems of charging are discussed in detail, with copious examples, in the Author's "Electrical Engineering Practice" * as regards British practice; it is only necessary here briefly to refer to a few of the best-known methods in force in India.

The best-known scientific method of charge is perhaps the maximum demand system. It is based on the subdivision of the total cost of producing energy into two parts, according to whether the items vary with the output of the generating station or not. On the one hand, there are the standing charges, which have to be paid whether the output is great or small, *viz.*, capital charges, salaries and wages, most repairs and the amount of fuel required to keep the boilers under steam when lying by. According to the maximum demand of the consumer [Schedule, clause VI, third proviso and clause IX (7) (c)] he is then charged his fair proportion of these standing charges. On the other hand, there are the running expenses of the station, varying with its output, mainly fuel and water. The consumer

* Fifth Edition, by J. W. Meares and R. E. Neale (Chapman & Hall, London).

PARA. 18. — pays for these according to the actual amount of energy used. In practice the custom is to record the maximum demand in kilowatts during the month or quarter and the total number of units consumed. Then for the first hour's use *per diem*, at the rate of the maximum demand, a high charge is made, such as will cover the consumer's share of the standing charges; for any use beyond this he merely has to pay the small charge per unit which will cover his share of the running expenses and profit. It is evident that the longer the hours he uses current the lower will be his average price per unit, and also the nearer will his average power approximate to his maximum. A modification of this method is used in ascertaining the cost of production in "selected stations" in England, under the Electricity (Supply) Act, 1926, the seventh schedule to which contains rules for determining the "fixed kilowatt charges component" and the "running charges component." *

Fixed charge
per kilowatt
demand.

In some cases a fixed annual charge, based on the maximum demand, is made, which comes to much the same thing as the case last discussed, but simplifies the accounting somewhat. The charge per unit is then based on the running costs. Where electric motors replace steam engines the fixed charge is sometimes based on the indicated horse-power of the engine displaced. This saves the use of a "maximum demand indicator" and is a good rough-and-ready method, but the inefficiency of the plant displaced is a very uncertain element. For lighting similarly, a fixed charge per lamp of stated wattage *per mensem* is sometimes made, with or without a low charge for energy used by meter.

Rateable
value and
other
domestic
two-part
tariffs.

Another series of "two-part" tariffs consists of a low charge per unit metered, coupled with a fixed periodical charge based on the character of the premises. The original "Norwich" system adopted a fixed charge which was a percentage of the rateable value of the house, and many varieties of this exist. In one large undertaking in India, the fixed charge depends on the number of "assessed rooms" in the house; a small extra sum being added for each additional room over the first. Only living rooms are assessed to count, and these if over a certain superficial area (say 400 square feet) count as two or more rooms for the purpose; service rooms, passages, etc., do not count. Such a tariff renders separate wiring and metering

* The Electricity (Supply) Act, 1926. John C. Dalton.

for different purposes (lighting, fans, power) unnecessary. The greater the number of units used, the lower does the overall cost per unit to the consumer become, owing to the spreading over of the fixed charge; and this encouragement to increased consumption acts also to the benefit of the licensee.

PARA. 18.
—

For descriptions of various other systems see the proceedings of the Institution of Electrical Engineers, before which papers on the subject are read from time to time; and also a brochure "Electricity Tariffs and Voltages" of the supply undertakings in the United Kingdom, compiled by the *Electrical Times* (London).

It has already been pointed out in paragraph 16, *ante*, that all applicants are entitled to receive a corresponding supply in similar circumstances, and that no undue preference is to be shown—sections 22 and 23. Disputes as to what constitutes "undue preference," what are "similar circumstances" and what is a "corresponding supply," if they arise, must be settled, in the last resort, by a Court of law.* It is quite clear from the wording of section 23 (2) and (4) that the licensee may prescribe different maximum rates for different purposes or conditions as stated therein. It would also appear that even if only a single maximum rate is specified, the licensee may still charge different rates up to that maximum for different purposes, so long as he charges the same rate for any one purpose to all applicants without undue preference. According to Will (*loc. cit.* in footnote) unless all the circumstances are similar, *viz.*, amount of energy consumed, expense of supplying it and getting payment, uniformity of demand, the time when the energy is required, etc., agreements may lawfully be made for different terms at different rates. When different systems of charging are offered, and the consumer may elect on which system he is to be charged, no undue preference is shown, though one consumer may consequently be charged less than others for the same supply. Hitherto it has been the general custom to charge uniformly a lower rate for power purposes than for lighting, though the original arguments for this course of action have lost much of their force lately. There is no reason why the licensee, if it suits him, should not reverse the custom and charge higher rates for power

* See cases cited on p. 91 of Dalton's 5th edition of "Will's Electric Lighting," under section 20 of the Electric Lighting Act, 1882, some of which are cited in the following pages.

PARA. 18. — than for lighting purposes ; or, what would appear more rational, base his actual rates upon questions of load factor and the hours of supply, irrespective of the use made of the power so supplied. Where supply in bulk to other licensees for distribution by them is undertaken this last method is necessarily adopted. It would certainly be to the licensee's advantage in most instances to charge lower rates for chemical or other works, operating night and day, than for either of the purposes mentioned above. Section 23, sub-section (4) of the Act, as amended by the Indian Electricity (Amendment) Act, 1922, makes the situation clear in regard to special methods of charging by licensees. These "may be based upon, and vary in accordance with, any one or more of the following considerations namely :—

- (a) the consumer's load factor, or
- (b) the power factor of his load, or
- (c) his total consumption of energy during any stated period, or
- (d) the hours at which the supply of energy is required."

Difficulties, however, may arise where the purposes are not identical but where there are apparently similar circumstances,—as to which the licensee and consumer might hold divergent opinions—and these must necessarily remain a matter of opinion in the absence of test cases.

In Great Britain there has been some litigation as to undue preference and agreements for the supply of energy, and the following cases may be cited :—

Metropolitan Electric Supply Co. v. Ginder (1901), 2 Ch. 799.

Husey v. London Electric Supply Corporation (1902), 1 Ch. 411.

London Electric Supply Corporation v. Priddis (1901), 18 T.L.R. 64.

London Electrical Supply Corporation v. Greenberg (*Electrical Review*, August 15th, 1902, page 258).

The above cases are discussed on pages 89 to 92 of Will's "The Law Relating to Electric Lighting, Power and Traction," 5th edition (Dalton), and the two first-named are also dealt with on pages 42, 43 of "The Law Relating to Electricity," by C. M. Knowles. Later cases will be found in "The Electrician Electrical Trades Directory and Hand

Book," year by year, under the heading of "Legal Decisions," of the previous year. In the *Attorney-General (ex rel. Long Eaton Gas Co.) v. Long Eaton Urban District Council* (1914), Ch. 251 (the *Electrician*, 15th May, 1914, page 236, and 6th November, 1914, page 156), the District Council owned the electrical works and their tariff included a special rate for factories and special rates for power or heating. The power rate was 1*d.* per unit for consumption between 4,000 and 6,000 units per quarter and $\frac{3}{4}$ *d.* above 6,000 units. Subsequently the Council decided that if a factory did not employ electric light the price for power would not be allowed to fall below 1*d.* The Local Gas Co., losing business, brought an action under the section corresponding to sections 22 and 23 of the Indian Electricity Act, 1910, though the latter have since then been amended. The *Electrician* summed up the case as follows:—

"By means of this new tariff the Council charged a lower price for power to a consumer who diminished his load factor by taking a supply for lighting than to one who used energy for power purposes alone, *i.e.*, at a higher load factor; in other words, they charged less for what cost them more."

It was held by the Court that there was a breach of both sections 19 and 20 of the (British) Electric Lighting Act, 1882, and judgment was given against the Council. Further cases are—

Attorney-General v. Ilford Urban District Council (the *Electrician*, 10th July, 1914, page 581); 84 L.J. Ch. 860; 13 L.G.R. 441.

Attorney-General v. South London Electric Supply Corporation (the *Electrician*, 18th December, 1914, p. 369).

Attorney-General v. Hackney Borough Council (the *Electrician*, 3rd August, 1917, page 709, and 21st December, 1917, page 479); 86 L.J. Ch. 682; 15 L.G.R. 676; 33 T.L.R. 548; 34 T.L.R. 166. This case was brought at the relation of the Gas Light and Coke Co., and the decision of Astbury J., in favour of the Council—the suppliers of energy—was unanimously upheld by the Court of Appeal.

The defendants, who were the undertakers under the Hackney Electric Lighting Order of 1893, confirmed by an Act of the same year and by the Hackney Electricity Act of 1906, issued a circular to customers within their area containing a scale of charges for the supply of energy. The scale for power was lower than that for light,

PARA. 18. — and the circular stated that consumers paying under the scale for power could use 20 per cent. of the supplied energy for the purpose of lighting their factories or workshops. It was claimed that such differentiation was a breach of sections 19 and 20 of the Electric Lighting Act, 1882. Held, that a customer who took current for power as well as lighting, being a more beneficial customer to the undertaking and taking at least four units for power for every unit for lighting, could not be said to be taking a supply in similar circumstances to a customer who took for lighting only ; that the effect of the sliding scale was that the charge for power and light combined was higher than for power only, though lower than for light only ; and that the defendants had not committed any breach of section 19 or section 20 of the Act.

Mr. Justice Astbury held that a differentiation fairly arrived at between classes of customers or between customers in any one class *inter se* might be made by the undertakers, provided that no differentiation was made between customers taking, or entitled to take, supplies which corresponded in similar circumstances, and that there was no undue preference given to power users over light users here because the circumstances affecting the supply were substantially different in the two cases, and justified, in the interest of the undertaking, the difference in treatment. The power customer as compared to the light user took a totally different supply in totally different circumstances, and it was irrelevant that the power user was allowed to allocate a portion of his whole supply to lighting. The case was distinguishable from *Attorney-General v. Long Eaton Urban District Council* (31 *The Times* L.R. 45 ; [1915] 1 Ch. 124), where the Court was dealing with two power customers whose supplies and circumstances were corresponding and similar.

Lord Justice Swinfen Eady, in the course of his considered judgment in the Appeal, said :—

It must be remembered, however, that we start with this—that using current for light as well as power renders worse the load factor ; if, therefore, two power users have the same load factor, although one also uses current for light, it follows that without using current for light they would have had different load factors, and as such would have been charged at different rates if worked out per unit consumed ; it is only by reason of one of these customers also taking current for light, and so adversely affecting his load factor, that he is reduced to the same level of charge as the other customer, who has a worse load factor than his own for power only. The effect of the sliding scale is that it does in fact introduce and adjust a third scale, for power and light combined, the charge being higher than would have been the charge for power only, and lower than would have been the charge for light only.

The relators have, in my opinion, failed to show any breach by the defendants of either section 19 or section 20 of the Act of 1882.

The case of *Attorney-General v. Long Eaton Urban District Council* (30 *The Times* L.R. 537 ; [1914] 2 Ch. 251 ; and on appeal 31 *The Times* L.R. 45 ; [1915] 1 Ch. 124) is clearly distinguishable from the present. In that case, when power and light were both taken the charge was at a lower rate than when power only was taken, although the consumer was not so good a customer to the station. Again, a difference was made when partial lighting only was taken, so that if any lighting was obtained from any other source the higher rate was charged. The *Long Eaton* case (*supra*) cannot govern the present.

A question often raised is whether electrical energy supplied to work a motor will be chargeable at the lower tariff for “ power,” if the motor is used to drive a generator work-

ing lights. It seems clear to the author that two cases PARA. 18.
may arise :

First, that the ultimate use of the energy purchased is ordinary lighting, in which circumstances power rates would not be permissible.

Secondly, that the generator is used to work lamps for photo-printing, kinematographs or similar operations ; here the power rate would be applicable. The whole *raison d'être* of a higher tariff for lighting is that all ordinary lighting loads last for only the same few hours of the day and overlap to make a peak load. Neither of these factors would operate in the cases supposed. The above views were endorsed by the Second Conference of Electrical Engineers and Inspectors to Government, 1916, *vide* Report,* where the practice among Indian companies is discussed. It may be added also that, in the circumstances supposed, many more units would be used than those actually consumed by the lamps, owing to the losses in both the motor and the generator, amounting to some 15 or 20 per cent. of the units metered.

Rebates in one form or another, for the mutual benefit Rebates.
of consumer and supplier, by reducing the price on the one hand and increasing the demand on the other, are fairly universal. Many systems of charging have been devised with a view to encouraging those likely to prove the most profitable class of consumers, by reducing the net price to persons who use power for long hours, or who refrain from using it during the hours when the demand on the plant is greatest. Again, direct discounts are often given for large consumption of energy, or for cash payments, irrespective of other conditions of use. Whatever the method may be the result is that different classes of consumers, though charged on the same system, actually pay varying rates per unit for their energy according to the amount they use or the way they use it. From the supplier's point of view it is a question of keeping the plant fully occupied. Whereas in a gasworks it is possible to generate steadily throughout the whole of the twenty-four hours, thus employing the minimum of plant and leaving fluctuations in demand to be dealt with by storage on a large scale, this is not at present practicable with electricity ; nor is it likely to be in the

* Edited by J. W. Meares ; see page 43. (Superintendent of Government Printing, India, Calcutta.)

PARA 18. near future. Electrical "storage" is in a totally different category, and can only make provision for minor variations in the demand. The load of an electrical generating station is generally at a maximum soon after sundown, when the greatest demand for light overlaps the power load, and plant must be installed to meet that demand. Where there is not a heavy industrial power load the graphical curve of the total output of the station runs up to a peak and as quickly down again, and during the greater part of the twenty-four hours some of the plant must stand idle. From this it follows that a consumer who keeps his own proportion of the plant busy all day or who agrees not to use power at the time of the "peak" is a valuable asset to the supplier, who can afford to give him lower rates. These considerations explain the great difference between the prices charged by ordinary town supply companies on the one hand and industrial or bulk supply companies on the other. The rate that is profitable to the one would be a dead loss to the other, a fact often lost sight of among non-technical consumers. This leads up to the somewhat technical questions of load factor and diversity factor, which must be lightly touched upon; the reader will find a fuller treatment in the Author's "Electrical Engineering Practice,"* where many examples are given.

Load
factor and
diversity
factor.

The lowest rate at which power can profitably be retailed depends on the cost of production. This again depends on a number of factors: the capital cost of the undertaking, the cost of fuel where it is used, economy and efficiency of design and maintenance, and the character of the load. As the output of the station increases the cost diminishes, but the rate at which the cost falls depends upon the nature of the increased load. The improvement of the "load factor" or ratio between the actual output of the station and the output that would result if the average demand was equal to the maximum, is of greater importance than the mere piling up of the maximum. A large installation of lights, put up for occasional use at the time of the year when the load is naturally heaviest, may prove a source of actual loss, by compelling the licensee to keep plant idle most of the year. On the other hand, electro-chemical work is almost continuous, and may have a load factor of 90 per cent. as against 5 to 10 per cent. for private lighting. Motors and

* Fifth edition; see footnote on page 1.

public street lighting occupy an intermediate position. All lights are wanted at more or less the same hours; with motors this is not the case, and the good "diversity factor" (or ratio of the sum of the consumer's maximum demands to the maximum demand on the station) of a power load, combined with long hours of use, make it the most profitable to the licensee. Thus, of 500 motors installed, it is probable that the various hours on any particular day at which one or another will be working at its maximum load will vary almost throughout the 24 hours of the day; and this lack of overlapping, constituting a good diversity factor, clearly enables a smaller plant to cope with the demand. Electrical water-heating is a particularly useful load in these respects, as the supply can be automatically cut off (by agreement) during the peak hours without inconvenience, and very low charges thus become possible; especially is this so where water power is employed as in many Indian hill stations. An example will serve to make the matter clearer. Let it be supposed that a consumer desires to pump water up to a reservoir, to such an amount and against such a lift as will involve a daily consumption of 240 units. By using a large motor-pump, working one hour a day, he could do all he needed, but the power station would then have to keep some 250 horse-power of plant available for the service in question, and it would be idle for 23 out of 24 hours. The consumer's load factor for the pump would be $250/250 \times 24$ or about 4 per cent. But by using a small motor-pump, working 24 hours a day, only 10 units an hour would be used, and the power station would only require some 10 horse-power for this service instead of 250; and it would be earning money all the time; the load factor would be 100 per cent. Actually the best arrangement would be to design for pumping about 22 hours a day, avoiding the peak lighting hours, with only a slightly decreased load factor, and that decrease advantageous to both supplier and consumer.

For the benefit of those unacquainted with the terms "load factor" and "diversity factor," which are constantly used in technical literature, the following definitions proposed by the British Committee of the International Electro-technical Commission are given:—

Works Load Factor.—"The number obtained by dividing the actual output of any works during a given period of time by what that output would have been had the works operated throughout the whole of that period at the maximum load reached during that period."

PARA. 18. *Diversity Factor*.—"The number obtained by dividing the sum of the maximum loads of the individual consumers supplied from any works during a given period of time by the maximum load delivered from the works during the same period."

The right of the licensee to adopt a system of differential charging giving these results was not questioned in the law courts in India during the currency of the Indian Electricity Act, 1910, before its amendment in 1922. It is mainly a question of undue preference, and of whether, under similar circumstances, the consumer obtains a corresponding supply at the same price as his neighbour. The matter has been thrashed out elsewhere in the case of the *Melbourne Gas Company v. Melbourne Corporation*, where the Gas Company sought to restrain the Corporation from continuing to charge their consumers rates which were not uniform throughout the area of supply. The decision of the case by the Judicial Committee of the Privy Council affirmed the right of the Corporation so to charge, even in the absence of express provision in the Act. The custom has taken firm root and has never been questioned in Great Britain (*Attorney-General v. Melbourne Corporation*, L.R. 1907, A.C. 469. The *Electrician*, August 17th, 1906, page 712, and August 9th, 1907, page 691).

Public
lamps.

The cost of a supply of energy to public lamps, *i.e.*, by definition in section 2 (*k*) "electric lamps used for the lighting of any street," is regulated by clause XII of the Schedule. The charges are to be settled by agreement or by arbitration. Though as between similar cases (*e.g.*, the lighting of streets controlled by a local authority and Government respectively) the prohibition of undue preference evidently applies, the case is treated as a special one ; and a claim on the part of a private consumer to be supplied at a rate agreed upon for public lighting could not be substantiated. Clause VIII of the Schedule provides for requisitions for supply to public lamps for a period of not less than seven years (see para. 16, "Supply").

Meters for
measuring
supply.

The value of the supply is, in the absence of an agreement to the contrary, to be "ascertained by means of a correct meter" (section 26), and a meter is deemed to be correct if it registers within the limits of error laid down in rule 2 (*u*) (see Appendix I). See "Meter disputes" on page 104.

Under the same section the consumer may require the licensee to supply a meter on hire (giving security for it), or he may purchase a meter if he prefers. The owner of the meter, whether consumer or licensee—the latter in the

case of hired meters—must in any case keep it in order [sub-sections (2) and (3)]. PARA. 18.

Under sub-section (4) of the same section 26 the licensee, after informing the consumer, may remove a meter for inspection and testing. If the meter is the consumer's property, and not hired from the licensee, the reasonable expenses of removing and testing it are recoverable from the consumer if it is found incorrect; Rule 2 (*u*) defines a correct meter. If the meter is hired from the licensee these expenses are not so recoverable, and this is ordinarily so. The amount of the reasonable expenses is to be settled in case of dispute by the Electric Inspector. If, however, the consumer has previously disputed the accuracy of the meter the licensee may not, by the proviso to sub-section (4), remove it until that dispute has been determined (see "Meter Disputes," *infra*).

The consumer may not connect or disconnect the meters by which the amounts of his bills are determined without giving the licensee notice [sub-section (5)], and if he does so, or if he maliciously injures or otherwise interferes with the meter, he is liable to a heavy penalty under section 44. It may be remarked here that a consumer contravening any provision of the Act applying to him is liable under the general penal section 47.

Misunderstandings often occur in India over such matters as the size of a meter. This is determined by the maximum load it has to carry. A large meter and a small one should (and generally do, unless one is incorrectly calibrated) register the same number of units, except that possibly the large one may fail to register at all on occasions when a single light only is switched on at a time when the mechanism is stationary. Meters are expensive to purchase and keep in order in the Indian climate, so naturally the smallest size that will carry the load is installed.

Neither the Act nor the rules states where the meter shall be placed, but this is of importance so long as it determines the "point of commencement of the supply" [rule 31 (*a*)], which in the Author's opinion it should *not* do. It is laid down that the licensee's cut-outs [which in some cases locate the commencement of the supply—rule 31 (*b*)] *shall* be on the consumer's premises; the meter also *ought* to be, save in the exceptional cases where the supply is given direct from a generating station or sub-station [see note on "service line," section 2 (*l*)]. In the case of *King-* Position of meter.

PARA. 18.

Emperor v. Rangoon Electric Tramway & Supply Co., referred to at length in paragraph 33 *post*, the meter and the licensee's cut-outs were fixed on the licensee's pole in the street. In reference to this bad practice in his depositions, the Electric Inspector remarked that "the meter will register more, partly as the result of the leakage on the line and partly because of the voltage drop and energy losses on the line." There should be no leakage; and the other losses are practically negligible. He further said that the consumer will not be getting full voltage owing to the drop on the line and "if the voltage is low, the consumer's lights will be dim and his fans inefficient." He appears to have overlooked that these losses occur precisely the same whoever erects the line and wherever the gear is placed; in any case the loss is trifling and could not conceivably make any apparatus inefficient. Such technical half-truths are out of place in impartial expert evidence. Finally, in this same connection, the Inspector said that the consumer is unnecessarily exposed to the penalty prescribed by rule 106, in the event of the seal on the licensee's cut-out being broken; but the meter was *not* on the consumer's premises, but in the road, so the rule in question could not possibly apply—the words of the rule being "the consumer *upon whose premises the seal was placed* shall be punishable. . . ."

Other apparatus.

Check meters, maximum demand indicators or any other apparatus may, at the discretion of the licensee, be placed on the consumer's premises, provided they are connected so as to cause no expense to the consumer, that is to say, the apparatus must be connected so that the energy used in working it will not pass through the meter by which the charges are assessed [section 26 (7)]. Where the charges for the supply depend upon any such special apparatus, as will often be the case where a special method of charge is approved by the Local Government under section 23 (3), the licensee must keep the apparatus correct according to the proviso to sub-section 26 (7) and the "Explanation" appended; and the provisions of section 26 apply generally in such a case to the apparatus in question.

Meter disputes.

Differences and disputes as to the correctness or otherwise of meters are to be settled by an Electric Inspector, or an appeal lies to him if they are settled otherwise, as provided for in sub-section 26 (6). Rule 2—*vide* Appendix I—lays down what is deemed to be a "correct" meter or other apparatus. The person adjudicating in the dispute

settles what in his opinion was the actual consumption of energy during the period (if any) that the meter was incorrect; he does this on the best information available, not necessarily "on the basis of the previous supply," as those words were repealed in the 1922 revision of the Act; a new proviso to this sub-section makes it incumbent on either the licensee or the consumer to give the other 7 days' notice before appealing to the Electric Inspector. In any case the register of the meter, in the absence of fraud, is conclusive proof of the amount or quantity of energy used. In *City of London Electric Lighting Company v. Melling*, an action was brought to recover a sum for electrical energy supplied. The defence was that the meters were inaccurate. It was proved that the company had supplied defendant with current for some time. It had recently been discovered that the meters were registering current against him, when, in fact, he was not using it. The defendant objected to pay the last account as he said he was only using half the radiators formerly used, and the company had charged him four times more than was usual at that period of the year. In accordance with the Act the meter was tested by the City Corporation's Electrical Engineer who found it reading 2·8 per cent. fast. The company then made their present claim, but defendant still refused to pay. Counsel for plaintiff pointed out that in the absence of fraud, which was not raised, the defendant was bound by the record of the meter and the Inspector's certificate. After hearing the defendant, Judge Lumley Smith said he was sorry for him, but he was bound by the meter according to the contract to supply. The defendant said, "Suppose they charge me for 1,000 units more than I have consumed, must I pay?" Judge Lumley Smith: "Yes, if the meter says so." Judgment was then given for the plaintiff company with extra costs, the case being one of importance (*Electrical Review*, November 23rd, 1906, p. 820). See, however, the notes on section 26 (6) of the Act.

The licensee may not cut off supply from a consumer, even for neglecting to pay his bills, if the correctness of the meter has been challenged [section 24, sub-section (2) as amended by the Indian Electricity (Amendment) Act, 1922]; but by virtue of the new (1922) proviso to that sub-section, this prohibition of cutting off the supply does not apply "in any case in which the licensee has made a request in writing to the consumer for a deposit with the Electric Inspector of

PARA. 18. the amount of the licensee's charges or other sums in dispute or for the deposit of the licensee's further charges for energy as they accrue, and the consumer has failed to comply.' See paragraph 16 of the Introduction as to discontinuance of supply.

Right of entry.

Where a licensee supplies energy to any consumer, he may, under the powers conferred by section 20, after giving notice, enter the premises for inspecting and testing his own apparatus, reading the meters to ascertain the quantity of energy supplied, or cutting off the supply either where it is no longer required or where he has statutory authority to do so. The second sub-section runs as follows :—

(2) A licensee or any person authorized as aforesaid may also, in pursuance of a special order in this behalf made by the District Magistrate or, in a Presidency-town or Rangoon, by the Commissioner of Police, and after giving not less than twenty-four hours' notice in writing to the occupier, enter any premises to which energy is or has been supplied, or is to be supplied, by him, for the purpose of examining and testing the electric wires, fittings, works and apparatus for the use of energy belonging to the consumer.

Apart from the customary examination before premises are connected to the mains, there are circumstances in which it is right that the licensee should be able to obtain access to any part of an installation, *e.g.*, if he believes there is either serious leakage (*vide* Chapter 4 of the Rules in the Appendix) ; or use of energy such as will interfere with the supply to other consumers (section 21 (1) proviso) ; or misuse of energy (section 23 (3), 26, 39, 44). As a general rule, no doubt, the consumer is quite agreeable to have his installation examined, but it is necessary for the protection both of other consumers and of the licensee that this right should be capable of enforcement on occasion. For testing a meter belonging to the consumer access may be had without an order under this clause, see section 26 (4). Where a consumer refuses to allow the licensee to enter his premises for any of the above purposes, or interferes with the performance of the acts specified, or fails to give reasonable facilities for entry or performance, the licensee may cut off the supply after the expiry of 24 hours' notice [section 20 (3), as added by the Indian Electricity (Amendment) Act, 1922]. Some licensees have undoubtedly had great difficulty in obtaining access to premises on their lawful business. For this reason the Act has been amended to enable them to cut off the supply in the last resort. The provisions of the law have, however, been unreasonably blamed in this matter. Even before the amending Act of 1922 was passed

a licensee could legally cut off the supply under rule 24 of the Indian Electricity Rules, 1911 (and the same rule is still in force) if the consumer did not "give all reasonable facilities for *inspection* and testing, etc." If this remedy was tried and an adverse decision given by the Court it seems probable that the fault lay with the licensee's conduct of the case. The rule is clear and incapable of any second interpretation.

PARA. 18.

The sub-section quoted above seems to make it clear by inference, if it were not already so from many other places, that the licensee and consumer are responsible for what belongs respectively to them. If the licensee were to be held responsible for the condition of works belonging to the consumer, as the Electric Inspector, Burma, has maintained, it would be patently absurd that he should require a magistrate's order to examine and test them. See discussion in paragraph 33 *post*, on the Rangoon case.

Limits of
responsi-
bility.

The licensee's meters, works, etc., on consumer's premises are protected against attachment by section 25.

Attachment.

19. As to Money Matters.—There are various provisions dealing with matters of money and accounts which may be conveniently considered here. Local authorities have the necessary powers for obtaining money in their own Municipal Acts. In most cases they have the right to borrow money for lighting the streets by any illuminant they choose, though this of itself gives them no right to set up works for the general supply of energy.

PARA. 19.

Provision of
capital by
local autho-
rity.

In such a case a loan would be specially applied for, repayable as to principal and interest during a term of years. In the case of local authorities' undertakings the question of depreciation,* or antiquation of plant, needs very careful consideration in connection with the repayment of these loans. So far as a loan represents the value of sites acquired, or of buildings erected, a long period for repayment is unobjectionable; but the question of plant is not on the same footing. Periods of thirty and forty years are often allowed for the extinction of the borrowed capital, whereas the original plant will probably have been entirely renewed long before the expiry of this period, even if it has not been superseded by something more up to date. To be paying back the capital after the plant has ceased to exist,

* See "Depreciation" in this paragraph, *post*.

PARA. 19. — perhaps concurrently with the repayment of subsequent loans raised for similar purposes, is not business. There is no reason why posterity should pay for present-day improvements after they have run their allotted span; nor is it right on the other hand that the present generation of ratepayers should be mulcted in order that their successors may have the credit of reducing municipal rates owing to the capital having been extinguished in too short a period. The rational solution is to base the currency of the loan on the probable average life of the whole installation; net profits, after setting aside a substantial reserve fund to cover unforeseen risks and uncertainty as to the actual life, should be allocated primarily towards reducing the price of energy, and only in the second place to the reduction of municipal rates, when the price has been brought low enough. In some British Orders in favour of local authorities the reserve fund is limited to 10 per cent. of the capital expenditure. Further surplus revenue may be applied to public improvements, but any excess beyond 5 per cent. per annum must be applied in reduction of the price of supply.

Provision of
capital in
other cases

Where the licensee is not a local authority the license is frequently granted in the first place to some individual or firm, with a view to subsequent transfer to a company with limited liability. Such transfer may only be effected with the sanction of Government (section 9) though it is well understood that this will generally be applied for; and there is no reason why it should not be granted as a general rule. A company cannot ordinarily be floated to take up electric supply business in India until the preliminary investigations have been made and the license has been granted, especially as the capital up to the present time has largely been subscribed in London. Purely speculative applications, where the intention is merely to keep out other probable licensees until the holder is bought out at his own price, will, it is to be hoped, be discouraged.

Under the Indian Companies (Amendment) Act, 1910 (IV of 1910), interest may be paid out of capital during construction.

Depreciation.

Some further remarks may here be made regarding depreciation, which is mentioned on the previous page and which is also an important factor in computing value for compulsory purchase—see paragraph 10, *supra*. Permissible rates of depreciation are nowhere “prescribed,” but provision is duly made for them in Annexure V to the Rules

(Companies' Accounts), head IV G, though this does not appear in the corresponding place in the form of Local Authorities' Accounts (Annexure IV to the Rules). The Second Conference of Electric Inspectors,* held in 1916, discussed the matter and agreed that the following rates would generally be reasonable :—

PARA. 19.

Steam plant . . .	5 per cent.
Internal combustion plant .	7 „
Stationary plant . . .	3 „
Water-driven plant . . .	4 „
Batteries . . .	10 to 15 „

The matter has been dealt with by the Author in considerable detail elsewhere,† and the relation of life of plant, residual value and depreciation are there discussed.

Local authorities, in the absence of special provision in the license, do not have to furnish security for the proper execution of works (Schedule, clause I), but other licensees must deposit or secure such sum as may be fixed in the license or by the Local Government, failing which the license may be revoked under section 4 (1) (c). Six months are generally allowed in which to comply, but an extension of time may be granted. The security demanded is generally 10 per cent. of the probable expenditure, subject to a limit—say Rs. 20,000—and interest is payable on the sum while it is held by Government, if “Government paper” is deposited. This security may be repaid or released on the completion of the works or earlier, as Government decides in each case, no doubt on the certificate of an Electric Inspector.

Clause III of the Schedule provides that a licensee shall, unless otherwise directed, “at all times keep the accounts of the capital employed for the purposes of the undertaking distinct from the accounts kept by him of any other undertaking or business.” This applies equally to local authorities and others. It is important in the case of companies because of the ultimate option of purchase that arises, in order to reduce the difficulties that an arbitrator will have in valuing the undertaking. In point of fact, as mentioned in para. 9, in connection with “combined undertakings,” it is not done.

* Superintendent of Government Printing, Calcutta, 1917.

† “Electrical Engineering Practice,” 4th edition, by J. W. Meares and R. E. Neale, Vol. III (Chapman & Hall, London).

PARA. 19

Under section 11 of the Act annual accounts of all undertakings not specially exempted are to be rendered to the Government "made up to such date, in such form, and containing such particulars" as may be prescribed by the rules. Rules drawn up under section 37 (2) (d) will be found in Appendix I, and forms of accounts are annexed to the rules as suitable models. The value of such accounts cannot be overestimated in the light of British experience. In the first place, the rivalry between different undertakings as to which will show the most satisfactory balance sheet, the most economical production, the least coal used per unit and so forth, has been a great incentive to the engineers in charge to increase their efforts.* When the time of purchase is approaching there can be no deception in the way of inflated profits for the previous two or three years, even if the undertaking is bought as a going concern—profits so well known in connection with the floating of new and the selling of old concerns, and having no objective existence. An analysis of the latest supplement to the List referred to in the footnote has been made, showing the fuel costs and total works costs (exclusive, *i.e.*, of capital charges) of all the licensed undertakings in India and Burma. From this, it appears that the average works cost per unit generated is 2.45 annas and the average fuel cost 0.93 annas, or 38 per cent. of the total. A very considerable number of the stations are in Burma, and, though very small, get very cheap oil fuel for diesel engines. The statement of accounts must be sold to any applicant at a price not exceeding five rupees per copy. They must, where the licensee is not a local authority, be audited in such manner and by such person as Government may appoint, and the licensee must afford to the auditor access to all books, documents, vouchers and information and must afford all facilities for the audit (Schedule, clause II). Actually, the audit of a chartered accountant is often accepted, under sub-clause (e) of this clause ; see note on the same in the text.

* These particulars, abstracted from the statutory accounts of licenses, were published in annual supplements to the "List of Electrical Undertakings in India" issued by the Electrical Adviser to the Government of India, until the abolition of that office ; the Electrical Engineer to the Punjab Government has taken up the task from 1927-28, and prepares similar annual supplements, from which the data in text following have been abstracted. See also the tables in paragraph 1, *supra*.

CHAPTER IV.

UNDERTAKINGS WORKING WITHOUT LICENSE.

PART III OF ACT.

20. Supply of Energy without License.—In paragraphs 8 to 19 the Act has been discussed in relation to licensed undertakings for the supply of energy, whether to the public generally or in bulk to other licensees. Licenses are, however, not compulsory as they were under the provisions of section 3 of the Act of 1903. That section was repealed in 1910, and section 28, in Part III, was substituted for it. The intention of section 28 is to safeguard the rights of the public where a person desires to undertake the business of supplying energy without either the assistance, or the full restrictions, of a license. Such cases occur from time to time. Having noted that where any difference or dispute arises as to whether any person is or is not engaging or about to engage in the business of supplying energy, the matter is to be determined by the Local Government—section 28 (2)—we may proceed to consider the first sub-section; the first proviso to it was repealed by the Indian Electricity (Amendment) Act, 1922, for the reason given in the “notes on clauses” of the Amending Bill (para. 7, *supra*).

PARA. 20.

Licenses not compulsory.

No person, other than a licensee, shall engage in the business of supplying energy except with the previous sanction of the Local Government and in accordance with such conditions as the Local Government may fix in this behalf, and any agreement to the contrary shall be void :

Provided that such sanction shall not be given within the area for which a local authority is constituted, without that local authority's consent, or within the area of supply of any licensee, without that licensee's consent, unless the Local Government considers that consent has been unreasonably withheld.

The first point to be noticed is that a licensee desiring to supply energy beyond the boundary of his area of supply does not come within this section, as shown by the opening words. He can obtain his end under section 27 or he can apply for an extension of his area of supply under section 4, sub-section (3), sub-head (b).

A non-licensee however must obtain the previous sanction of the Local Government, to which conditions may be attached, and any agreement to the contrary—as, *e.g.*, with a local authority—will be void. The exercise of the power of the Local Government to give such sanction is limited

PARA. 20.

by the proviso, which is intended to safeguard any local authorities concerned, and also existing licensees. Here we may refer for a moment to the following section 29, which is dealt with later. If the person who obtains powers under section 28 can exercise them without breaking up streets he is free to do so ; otherwise he must subsequently apply for powers under section 29 also. In practice a distinction may be drawn between three classes of undertakings, which may be discussed *seriatim*.

Private
undertak-
ings.

First we may consider the sale of surplus power by an individual or a company generating it for private purposes, to a limited number of particular users, whether tenants, neighbours or otherwise. The persons so purchasing energy would doubtless be well advised to enter into a contract for their own protection, but the supplier would probably prefer to work without a license. So long as he is held by the Local Government not to be "engaging in the business of supplying energy" the prohibition in section 28 of the Act would not apply to him, so that he would be free to enter into agreements with the local authority or any one else, and he could seek power to break up streets under the provisions of section 29 (3) without requiring the sanction of Government ; he would thereafter have to comply with the provisions of section 30,* of Part IV of the Act, and, in connection with the breaking up of streets, with so many of the provisions of Part II "as to works" as may have been imposed on him under section 29 (3). Suppose, however, that the operations proved sufficiently remunerative to induce the owner to extend his plant in order to increase his sales, and that he was willing to let his neighbours generally have the benefit of a supply of energy. In this case it would become a question of fact whether or not he was "engaging in the business of supplying energy" within the meaning of section 28. In the absence of any objections from persons locally interested, it is possible that he might be left alone ; but in the event of his giving preferential treatment, which it would clearly be open to him to give, it is most probable that the local authority or some person who believed himself to be aggrieved would object. Government would then have to decide, under the provisions of section 28 (2), whether the supplier had or had not in fact engaged in the business of supplying energy, and, assuming the decision to be in the

* This makes it incumbent on him to comply with such of the rules (Appendix I) as are applicable to him ; see Table III in paragraph 26 *post*.

affirmative, the supplier would become liable to prosecution for an offence against the Act and to the infliction of a heavy penalty under section 41. The prosecution may be instituted at the instance of Government or an Electric Inspector or of a person aggrieved (section 50). It has been held in Great Britain that a person is not supplying energy to the public in a statutory sense unless that is his principal business; rulings in India differ, as might be expected, in different Provinces, and the matter has not been before the Courts.

PARA 20.

A supplier contravening the provisions of section 28 would only have two courses open to him if he desired to continue supplying energy, *viz.*, either of applying for the sanction of Government under section 28, and submitting to the conditions imposed thereunder, or of applying for a license. If the circumstances brought to light were such that Government considered that a license should be taken out in the public interest, then the former sanction would be withheld, and there would be no option left to the owner. He must either cease to supply or else apply for a license, and in the absence of exceptional circumstances this would no doubt be granted. Immediately upon the grant of a license, the licensee and the consumers* would become subject thereto, and to the provisions of the Act, and questions arising out of any prior contract for supply would have to be settled between the parties.

The second case is that of a person avowedly undertaking the business of supplying energy to the public generally, whether the energy is generated by him or purchased in bulk. In this case section 28 of the Act would apply and also, as regards the breaking up of any street, railway or tramway, etc., section 29. The person intending so to supply energy, and wishing to work without a license, must apply for the previous sanction of Government; and here again, if that consent is withheld, an application for a license becomes the only alternative. The giving of unconditional sanction might, however, put the person in question in a far more favourable position than a licensee, by giving him powers without any corresponding obligations, other than the necessity of complying with the provisions of Parts III and IV of the Act. The power to insert conditions in the sanction is consequently expressly conferred

Undertak-
ings for
supply to
the public.

* See note on "consumer" in section 2, page 193.

PARA. 20
—

by section 28 (7). In the case of an urban undertaking it is hard to avoid the conclusion that many of the provisions of the Act would have to be made conditions for the protection of the local authority, other authorized persons, the telegraph authority and the consumer* ; in this case the grant of a license would be the simpler expedient, and there can be little doubt that this would be the upshot. The rules, of course, apply in any case to him.

Power companies and
bulk supply

This brings us to the third case, that of an undertaking generally covering an extensive area, seeking its customers chiefly among large power users, whether distributing licensees (section 3 (2) (f) and Schedule, clause IX) or otherwise. Here much would depend upon the area of supply. So far as the distribution of the power by other persons is concerned the matter is dealt with under the second case above, though it would be immaterial to the supplier whether the distributor were licensed or not. If the owner of the works himself proposed to distribute energy in any town, then the remarks on the second case apply to a great extent ; a license would in all probability be necessary for the areas within these towns, though it need not necessarily cover the intervening area, nor need the generating station be within any one of the areas of supply. If, on the other hand, the undertaking should be far removed from urban districts, *e.g.*, a water-power project, seeking to attract power users to its own neighbourhood, and only supplying energy to towns indirectly through the agency of a distributor at the far end of a transmission line, the circumstances would be altogether different. Such power users would be well able to take care of themselves, as regards the price of energy and so forth, and there would be no reason why these matters should not be left to the ordinary operations of the law of supply and demand. Here previous sanction might well be given under sections 28 and 29 to the proposals in question and to any breaking up of streets necessary for the purposes of the undertaking, the conditions attached to the consent being merely such as would prevent misuse of the roads, etc., or interference with traffic and the telegraphs. The provisions of Part IV of the Act would of course for the most part apply, as also would those of section 30 in Part III if energy were transmitted or used in the places mentioned therein ; but otherwise the owner would have a free hand

* See note on "consumer" in section 2, page 193.

to carry out his works and run his undertaking in his own way. He could subsequently apply for a license or licenses if he chose—*e.g.*, for the supply of energy in any towns within reach of his transmission lines. PARA. 20.

The following notes on some of the “special sanctions” actually in force under section 28 are taken from the Report of the Third Conference of Electrical Engineers and Inspectors to Government, 1918:—* Special sanctions given.

Club of Western India, Poona (Bombay).—Sanction to supply the Ladies’ Club at 110 volts. It is specified that section 30 of the Act shall apply, but it would apply *proprio vigore* in any case. The permission of the local authority is required to cross roads.

Mr. Darbarilal, Chhindwara (Central Provinces).—Sanction with the permission of the Municipal Committee, to supply an area defined on a plan; subject to revocation if supply is not commenced within one year. Continuous supply during the hot weather only; day supply not necessary at other times. Installation subject to approval of Local Government. Sections 20 to end of Act and clauses IV to XVII of the Schedule deemed to be included. It may be noted that clause IX is clearly inapplicable. The Indian Electricity Rules are also brought in, but these are necessarily applicable by virtue of section 30.

Debendra Mohan Lahiri, Darrang, Tezpur (Assam).—Sanction to supply an area defined by boundaries, subject to revocation for default, in which case the works are to be removed and the ground re-instated. No other conditions attached.

Sri Rama Electric Supply Co., Morrispet, Tenali (Madras).—Sanction to supply an area defined on a plan, with the permission of the Municipality. Works to be carried out within $2\frac{1}{2}$ years on pain of revocation and forfeiture of security. Compulsory supply only from sunset to sunrise. Accounts to be submitted in a simplified form. Sections 9, 11, 20 to 26, 42 of the Act and clauses VI and XVII of the Schedule to apply, together with the rules applicable to licensees.

Sijua-Jharia Electric Supply Co. (Bihar and Orissa).—Sanction to supply certain specified collieries and railways within an area defined by latitude and longitude, with limited powers to extend with a fresh sanction. Sanction

PARA. 20. subject to revocation in certain contingencies. No special provisions of the Act are incorporated, but provision is made for the possibility of a license being subsequently granted.

The Henzada case.

An interesting case arose under section 28 in Henzada, Burma. In 1920 the Ngamyethna Pagoda Lighting Association obtained a sanction to supply five Buddhist pagodas in addition to the one where the plant was situate, and also to "Donators" to the pagoda funds, for a period of three years. Soon after, two other Burmans obtained a similar sanction to supply part of the town, and in 1922 this was merged into a licensed undertaking, the "Henzada Electric Supply Co." Tolerant at first of their co-religionists' earlier venture, the licensees ultimately opposed an extension of the sanction after the expiry of the three years, on the ground that the Pagoda Association was "engaging in the business of supplying energy," especially to the Donators, who did not, however, pay anything directly for their supply; the Legal Remembrancer's "opinion" was in favour of the Association, presumably for this reason. Nevertheless it is clear that the donations to the pagodas were a necessary adjunct to the supply and, in fact, helped to pay the cost of the power and thus to make the supply self-supporting or profitable. The sanction was renewed for a further three years. When another renewal was applied for (in 1928) the matter came before the Governor for decision, and he refused the request, holding that the first renewal was an error, and that the Association was engaging in the business of supply. Thereafter the Association continued the supply to the pagodas, through their Trustees, but left the business of supplying the Donators to the licensees. The case was not brought before the Courts.

Breaking up of streets by non-licensees.

No local authority or person—the latter term includes the former—has any right to break up a street unless in pursuance of statutory powers. A licensee obtains his powers under section 12 of the Act, subject to the limitations in that and the following sections dealing with works, which are discussed in paragraph 11 of this Introduction. Some local authorities may have power to break up streets, under a Municipal Act, for the purpose of electrical works; but in the absence of such power they were debarred from so doing until this enactment came into force. And, similarly, a local authority could not legally confer power on any other person to break up the streets under its control. Cases

frequently occurred prior to 1910 where leave to break up streets was sought, and it was not infrequently given—for no one was likely to question the legality of the action. PARA. 20.

Both gas and electrical companies in Great Britain have laid mains in streets without statutory powers or the local authority's consent, and the aid of the Courts has been invoked in the matter. The Court of Appeal refused to grant a mandatory injunction to compel removal of mains surreptitiously laid, without statutory powers and in defiance of the vestry, on the ground that although the company had acted illegally there was no continuing trespass or interference with any right of the vestry (*Battersea Vestry v. County of London and Brush Provincial E.L. Co.*, 1899, L.R. 1 Ch. 474). The company was however fined in the Police Court (*Electrician*, February 3rd and 24th, 1899). The question has been dealt with in section 29 of the Indian Electricity Act, 1910.

Section 29, s.s. (1) meets the special case of a person engaging in the business of supplying energy without a license as follows:— Non-licensees' powers and liabilities.

(1) The local authority may, by order in writing, confer and impose upon any person, who has obtained the sanction of the Local Government under section 28 to engage in the business of supplying energy, all or any of the powers and liabilities of a licensee under sections 12 to 19, both inclusive, and the provisions of the said sections shall thereupon apply as if such person were a licensee under Part II.

Section 29, s.s. (2) meets the case of a local authority, not being a licensee, desiring to light its own streets, whether purchasing energy from outside or generating it itself, as follows:—

(2) A local authority, not being a licensee, shall, for the purpose of lighting any street, have the powers and be subject to the liabilities respectively conferred and imposed by sections 12 to 19, both inclusive, so far as applicable, as if it were a licensee under Part II.

Section 29, s.s. (3) meets all other cases that may arise, namely such as would fall within section 30 (1) (a) of the Act, which is discussed in the next paragraph. Here the powers and liabilities which "the person responsible for the repair of the street" may confer and impose are more limited than in the two earlier sub-sections. The clause runs:—

(3) In cases other than those for which provision is made by sub-section (1), the person responsible for the repair of any street may, by order in writing, confer and impose upon any person who proposes to transmit energy in such street all or

PARA. 20. any of the powers and liabilities of a licensee under sections 12 to 19 (both inclusive), in so far as the same relate to—

- (a) opening or breaking up of the soil or pavement of such street, or
 - (b) laying down or placing electric supply-lines in, under, along or across such street, or
 - (c) repairing, altering or removing such electric supply-lines,
- and thereupon the provisions of the said sections shall, so far as aforesaid, apply to such person as if he were a licensee under Part II.

To ensure action of some sort being promptly taken under the first and third sub-sections it is also enacted in sub-section (4) as follows :—

(4) If no order is made within fourteen days after the receipt of an application for the same under sub-section (1) or sub-section (3), the order so applied for shall be deemed to have been refused, and every order, and every refusal to make an order, under sub-section (1) or sub-section (3) shall be subject to revision by the Local Government.

Non-licensees and the rules. Most of the Indian Electricity rules apply as a matter of course to all non-licensees, according to their activities. They are “owners” as defined; they are responsible for works as the “person to whom the same belong”; and they are subject to all other rules of general application. So also are those people to whom they supply energy, in the case of rules 41, 42, 44, 45 and many others.

PARA. 21. 21. Transmission and Use of Energy under Part III.—
A person who is not engaging in the business of supplying energy but, who is transmitting or using energy

- (a) in any street, or
- (b) in any place,
 - (i) in which one hundred or more persons are likely ordinarily to be assembled, or
 - (ii) which is a factory within the meaning of the Indian Factories Act, 1911,* or
 - (iii) which is a mine within the meaning of the Indian Mines Act, 1923,† or
 - (iv) to which the Local Government, by general or special order, declares the provisions of this sub-section to apply,

will be subject to the provisions of section 30 of the Act, as amended in 1922. Sub-clause (iv) of sub-section (1) (b) was added by the Indian Electricity (Amendment) Act, 1922, to cover certain places not coming within the definition of “factories” in that Act; it appears to have been over-

* Act XII of 1911, as amended by Act II of 1922.

† Act IV of 1923, as amended by the Indian Mines (Amendment) Act, 1928 (XIII of 1928); vide notes on section 30 of the Act.

looked, as suggestions have been made at a later date for amending the Act in order to bring in certain classes of persons using energy at medium or high pressure, who can clearly be brought in now "by general or special order."

PARA. 21.

In order to prevent any legal difficulty arising as to the use of electric bells, radio and other similar apparatus the section only applies to the transmission or use of energy at a rate exceeding 250 watts; obviously no question could arise in the case of a licensed undertaking, where the power runs rather into thousands of kilowatts.

While section 30 is limited in its operation to the places enumerated above, that does not by any means imply that a person may execute works of a dangerous nature elsewhere with impunity. The section throws a specific burden of care upon a person who, for example, puts up a faulty overhead line in a street, whether with or without giving notice or obtaining leave to do so. But under the common law there are limits to what may be done to endanger those who are in any place on their lawful occasions. The Indian Electricity Rules "have effect as if enacted in this Act" and throw a considerable amount of responsibility on persons to whom certain works belong, in rules 41, 42, 44, 45 and many others. Their actual liability is, of course, a matter for the Courts to decide, if accidents occur.

Limitation of responsibility.

Section 30 is to the general effect that persons transmitting or using energy in any of the places enumerated above must give previous notice of their intention and must comply with the general provisions of Part IV *and with the rules*. It is immaterial whether the energy used in these places is generated by the owner or purchased from a licensee; but the second proviso permits of exemption by Government in such cases. Railways and tramways, subject to the Indian Railways Act, 1890, which were entirely exempted from this provision under the Act of 1903, are now under it as regards their stations, workshops and so on, though exempt as regards "energy used for the public carriage of passengers, animals or goods on, or for the lighting or ventilation of the rolling stock of, any railway or tramway." These last matters can be dealt with more conveniently under the provisions of the Indian Railways Act. The second proviso allows further exemption, by general or special order, in cases where the energy is used "on premises upon or in connection with which it is generated," or, as noted above,

Notice to be given and rules complied with.

Exemptions.

PARA. 21. — where energy supplied by a licensee under Part II is used in any place specified in this section. Differences or disputes as to whether one hundred persons are likely ordinarily to be assembled are by sub-section (2) to be settled by the Local Government. These words bring such places as theatres within the provisions of the section; and the many disasters recorded in recent years at places of entertainment—particularly cinematograph * exhibitions—show the necessity for their regulation. Clubs, churches, and so forth would perhaps be exempted, but each case would have to be decided by the Local Government on its merits.

Penalty
for breach.

Section 43 prescribes a penalty of five hundred rupees, and a further daily fine of fifty rupees, for failure to give the notice required by this section; and a breach of the rules renders the offender liable to a fine which may extend to three hundred rupees and a further daily fine of fifty rupees—section 37 (3). The revised rules are printed in the Appendix.

Application
of Part IV.

As regards the provisions of Part IV, so far as they are applicable to persons using energy under Part III, see paragraphs 22 to 28 next following. Special attention is called to section 33 of the Act, as to giving notice of accidents; such notice is in addition to any other which may be necessary under other enactments relating to railways, factories, mines, etc.

Power to
break up
streets.

Any person transmitting or using energy under section 30, who wishes to break up or interfere with any street, can obtain power to do so from the person responsible for the repair of the same under section 29, which is quoted on pages 116, 117.

CHAPTER V.

GENERAL PROVISIONS, APPLICABLE TO ALL PARTIES.

PART IV OF THE ACT.

PARA. 22.

22. Protective Clauses.—Several protective sections of the Indian Electricity Act, 1903, which were in Part II of that Act and consequently applied only to licensed undertakings, have been transferred to Part IV, where they

* See the Cinematograph Act, 1918 (II of 1918) and the Cinematograph (Amendment) Act, 1919 (XXIII of 1919) and the rules issued by Local Government thereunder.

apply generally to the generation, transmission, supply or use of energy. PARA. 22.

Section 31 protects railways, tramways, canals, waterways, docks, wharfs and piers.

Section 32 protects telegraphic, telephonic and electric signalling communication from prejudicial interference, by induction or otherwise. By the Devolution Act, 1920, (XXXVIII of 1920) "the Local Government" was substituted for "the Governor-General in Council" in both cases where the phrase occurs in sub-section (7).

Section 33 deals with the reporting of accidents and also with the general carrying out of the provisions of the Act and rules as to the safety of the public. The first sub-section was recast by the Indian Electricity (Amendment) Act, 1922; instead of specifying the authorities, to whom accidents are to be reported, in the Act itself, the sub-section enacts that the report shall be made "in such form and within such time and to such authorities as the Local Government may by general or special order direct." If therefore an Electric Inspector should be appointed by the Governor-General in Council, as, *e.g.*, for mines (see para. 25) the Local Government would have to ensure his receiving notices of accidents within his jurisdiction.

Section 34 opens with a prohibition of connection with earth* unless permitted by a rule or specially sanctioned by the Local Government—the change from the Governor-General in Council having been made by the Devolution Act, 1920 (XXXVIII of 1920), in both cases where the phrase occurs in sub-section (7). The second sub-section allows the Local Government to interfere if there is a breach of this provision, or if any works are attended with danger to the public safety, or to human life, or to any telegraph line; and, by virtue of section 58, as amended in 1922, the Local Government may delegate this power to the Electric Inspector:—

- (2) If at any time it is established to the satisfaction of the Local Government—
- (a) that any part of an electric supply-line is connected with earth contrary to the provisions of sub-section (1), or
 - (b) that any electric supply-lines or other works for the generation, transmission, supply or use of energy are attended with danger to the public safety or to human life or injuriously affect any telegraph line, or

* Connection, that is, of the conductors; the connection of all metal work in any way constituting the supports of electric supply-lines is obligatory on "the person to whom the same belong." See paragraph 14, under marginal heading of "Lack of efficient earthing."

PARA. 22. (c) that any electric supply-lines or other works are defective so as not to be in accordance with the provisions of this Act or of any rule thereunder, the Local Government may, by order in writing, specify the matter complained of and require the owner or user of such electric supply-lines or other works to remedy it in such manner as shall be specified in the order, and may also in like manner forbid the use of any electric supply-line or works until the order is complied with or for such time as is specified in the order.

Penalty. Non-compliance with such an order carries with it a penalty which may extend to one thousand rupees [section 42 (c)].

PARA. 23. **23. Arbitration.**—By section 52 of the Indian Electricity Act—

52. Where any matter is, by or under this Act, directed to be determined by arbitration, the matter shall, unless it is otherwise expressly provided in the license of a licensee, be determined by such person or persons as the Local Government may nominate in that behalf on the application of either party ; but in all other respects the arbitration shall be subject to the provisions of the Indian Arbitration Act, 1899.

Matters to be settled. The following cases are found in the Act where arbitration is to be resorted to in the case of difference or dispute :—

- (i) Determination of the value of an undertaking in case of purchase, after revocation or compulsory purchase, respectively, on the lines laid down in sections 5 (b) and 7 (7).
- (ii) Determination, on the application of an “owner” under section 13 (1) (d) or 14 (2) (b), of any question in relation to works, etc., or on the application of either party under section 15 (5).
- (iii) Determination of the amount of compensation due from a licensee or “operator,” as the case may be, for default in carrying out the provisions of sections 13, 14, 15 and 32.
- (iv) Determination of the amount of expenses incurred under section 16 (3).
- (v) Determination of the amount or application of compensation payable by a licensee for damage done (section 19).
- (vi) Determination, on the application of either party, of disputes under section 21, as to whether a licensee has prescribed any appliance or controlled or interfered with the consumer’s use of energy ; otherwise the matter is to be decided by an Electric Inspector.
- (vii) Determination of disputes as to the sufficiency of the security offered, or the amount of energy to

be taken or guaranteed by consumers, under clause V of the Schedule, which deals with "the laying down of further distributing mains." The option, however, lies with Government as to whether arbitration shall be resorted to. Government can also delegate its powers under this clause to an Electric Inspector (section 55).

- (viii) Determination of disputes as to the supply of energy to distributing licensees (clause IX (7) (d) of the Schedule).
- (ix) Determination of disputes between the licensee and the Local Government or the local authority as to the charges to be paid for energy supplied to public lamps (clause XII of the Schedule).

The following extracts from the Indian Arbitration Act, 1899, may be noted :—

Extracts
from Indian
Arbitration
Act, 1899.

Section 10.—"The arbitrators or umpire acting under a submission shall, unless a different intention is expressed therein,—

- (a) have power to administer oaths to the parties and witnesses appearing ;
- (b) have power to state a special case for the opinion of the Court, on any question of law involved ; and
- (c) have power to correct in an award any clerical mistake or error arising from any accidental slip or omission."

Section 11.—"(1) When the arbitrators or umpire have made their award, they shall sign it and shall give notice to the parties of the making and signing thereof and of the amount of the fees and charges payable to the arbitrators or umpire in respect of the arbitration and award.

(2) The arbitrators or umpire shall, at the request of any party to the submission or any person claiming under him, and upon payment of the fees and charges due in respect of the arbitration and award, and of the costs and charges of filing the award, cause the award, or a signed copy of it, to be filed in the Court ; and notice of the filing shall be given to the parties by the arbitrators or umpire.

(3) Where the arbitrators or umpire state a special case under section 10, clause (b), the Court shall deliver its opinion thereon ; and such opinion shall be added to, and shall form part of, the award."

Section 12.—"The time for making an award may, from time to time, be enlarged by order of the Court, whether the time for making the award has expired or not."

Section 13.—"(1) The Court may, from time to time remit the award to the reconsideration of the arbitrators or umpire.

(2) Where an award is remitted under sub-section (1), the arbitrators or umpire shall, unless the Court otherwise directs, make a fresh award within three months after the date of the order remitting the award."

Section 14.—"Where an arbitrator or umpire has misconducted himself, or an arbitration or award has been improperly procured, the Court may set aside the award."

PARA. 23.

Section 15.—“(1) An award on a submission, on being filed in the Court, in accordance with the foregoing provisions, shall (unless the Court remits it to the reconsideration of the arbitrators or umpire, or sets it aside) be enforceable as if it were a decree of the Court.

(2) An award may be conditional or in the alternative.”

The first Schedule to the Indian Arbitration Act lays down the provisions which, unless a different interpretation is expressed therein, are deemed to be included in the submission of a case to arbitration.

In the second Schedule forms of submission to arbitration and of the award, etc., are set forth.

It may be added that, where the parties so desire, it is possible that an “Advisory Board” (section 35) would be appointed to arbitrate.

PARA. 24.

Amendment
Committee's
recommendation
in 1909.

24. **The Administration of the Act.**—Under the Act of 1903 there was virtually dual control in the administration of the Act, as pointed out in paragraph 5 of this Introduction. Two courses were open, further centralization or more complete decentralization. The committee which first reported on the question of the revision of the Act of 1903 were in favour of the administration of the Act by the Government of India, and the Bengal Chamber of Commerce strongly supported this view. It was not, however, accepted, and the only sections of the Act of 1910 in which the Governor-General in Council appeared were 3, 10, 32, 34, 35, 36, 37, and 51. Subsequent evolution in the political situation in India under the Reforms has shown that the course partially adopted in 1910 would have in any case been essential at a later date. By the Devolution Act, 1920 (XXXVIII of 1920), the control of the Governor-General in Council in sections 3 (3), 10, 32 (2) and 34 (1) was removed before the Indian Electricity (Amendment) Bill, 1921, was introduced. The latter, as passed in 1922, substituted the Local Government for the Governor-General in Council, in section 51 also. As amended, the administration of the Act rests solely with the Local Government except in the following places :—

places where
Government
of India is
concerned.

Section 3, sub-section (2), clause (ii).—A reference to the Engineer-in-Chief, Army Headquarters, India, is necessary before a license is granted in any area embracing or consisting of cantonments, arsenals, and similar places.

Section 35.—Both the Governor-General in Council and Local Governments may constitute Advisory Boards ; this section was amended in 1922, to make it more elastic ; see para. 25. PARA. 24.
—

Section 36.—Both the Governor-General in Council and Local Governments may appoint Electric Inspectors. The reasons for this may be found partly in the number of minor Administrations, which do not require a whole-time Inspector. Furthermore, Mines are administrated by the Government of India, under the Indian Mines Act, and the Chief Inspector of Mines was for many years also an Electric Inspector appointed by the Governor-General in Council. Similarly, the Electrical Engineers to Railway administrations are in some cases Electric Inspectors under this Act. There need be no overlapping of functions.

Section 37.—The power of making rules is reserved to the Governor-General in Council.

Section 53 (1) (a).—Provision is made for serving notices on the Governor-General in Council.

Electricity was originally dealt with in the Public Works Department. So far as its administration by rules is concerned it is still a "Central" subject ; but in other respects, especially as regards industries, it is "Provincial." It now comes partly under the Public Works but mainly under the Industries and Labour Department or the local Director of Industries. Section 53 (1) was therefore amended to ensure the serving of notices on the correct officer in each case. Section 53 (1) makes this clear in regard to the serving of notices on the Government. General
notes on ad-
ministration.

The law as to the grant and revocation of licenses is explained in paragraphs 8 and 9 of this Introduction, to which the reader is referred, and the rules governing the matter are printed in Appendix I.

Under section 51, the power of the telegraph authority as to placing lines and posts may be delegated to a licensee—see paragraph 12, *supra*—and the law as to acquisition of land is dealt with in paragraph 13. Licensee's accounts are discussed in paragraph 19 ; Electric Inspectors and Advisory Boards in paragraph 25 ; and rules in paragraph 26. The Governor-General in Council holds the monopoly in

PARA. 24. telegraph matters, the Indian Telegraph Department being a branch of the Central Government. The protection of the works and communications of the telegraph authority, and of those companies, etc., licensed by it for telephony or signalling, is assured particularly by sections 17, 32 and 34, although the Governor-General in Council's powers are now exercised by the Local Government in relation to these provisions. Disputes as to alleged interference between the telegraph or telephone authorities and a person generating, transmitting, supplying or using energy, whether under a license or not, are to be settled by the Local Government [section 32 (2), as amended by the Devolution Act, 1920 (XXXVIII of 1920)].

Government undertakings. If the Government carries out an electric supply scheme no license is *required*; it is assumed that Government will, as a matter of course, do nothing contrary to the public welfare. But there is no reason why Government should not, if it chooses, grant a license to one of its own departments; and from the point of view of private individuals who may wish for a supply, this is highly desirable. In the many cantonments already supplied with light and power by the Government (in the Military Works Department) no licenses exist, and a supply can only be obtained by courtesy, not as of right. On the other hand, statutory authority to supply from the Uhl River (Mandi) hydro-electric scheme* has been given in fourteen civil districts of the Punjab by the Punjab Districts Electric License, 1932, granted by the Punjab Government to its own Ministry of Local Self-Government of the Province, which will operate the undertaking through an Electricity Branch.

Section 30 in Part III of the Act is, however, binding on the Crown and the rules must be complied with in all Government installations; there was some doubt about this under the Act of 1910, but the addition of the new subsection (3) to section 37, made in 1922, has placed the matter beyond doubt. Where Government itself supplies energy in a cantonment, there will be, as a rule, no inducement for a licensee to obtain powers outside the cantonment area; the exceptions are Presidency towns and other large cities. Consequently there may be hardship on individuals if in such cases the civilian population inside or outside the cantonment area is debarred from obtaining a supply of

* Various other hydro-electric schemes are being carried out by Local Governments also in Madras and United Provinces.

energy at least for domestic use—lighting and fans. The question of price in this connection is not altogether simple. Such an installation is put up as a private concern, by Government, for the benefit of its employees and not with a view to profit, and no civilian can demand a supply. If, on the other hand, a licensed company is working an undertaking in a similar place all persons are entitled by law to a similar supply and undue preference may not be shown, so that the civilian consumer is in this case as well off as his military neighbour.

PARA. 24.
—

Where Government purchases a licensed undertaking under section 5 (d) or 7 (2) the license, so far as Government is concerned, automatically ceases to have any further operation, though certain offences are still punishable as though Government were a licensee (section 49). Except perhaps as regards cantonments the Government would probably take an early opportunity of disposing of such an undertaking to a new licensee.

Following section 25 of the Indian Railways Act, 1890, the Local Government may delegate to Electric Inspectors certain of its functions relating to technical matters (section 55). They are as follows :—

Delegation
of powers.

Section 13 (1) (b).—Appeal against disapproval of repairing authority, as to new works.

Section 13 (3) proviso.—Extension of period for which a temporary aerial line may be used.

Section 18.—Approval of system of construction of aerial lines.

Section 34 (2).—Power to interfere in certain cases of default, *viz.*, unauthorized earth connection, works dangerous to the public or to telegraphs, or works not in accordance with the Act and the Rules. This delegation of power was introduced in 1922.

Clause V (2) of Schedule.—Settlement of disputes as to laying mains, or submission of the dispute to arbitration.

Clause XIII of Schedule.—Directions as to establishing testing stations.

It may be noted that under section 36 (3), as amended in 1922, an appeal lies from the decision of an Electric Inspector (unless that decision is expressly stated to be final) to

PARA 24

Government or, if Government so directs, to an Advisory Board. The change covered by the concluding words was made because it was believed to be preferable to let an outside body settle a matter in which the Electric Inspector would necessarily be also the adviser of the Local Government in relation to the appeal. The "direction" may be "by general or special order."

The Local
Government.

In the Act there are references to the Local Government in so many places that a list of them would be valueless; the text of the enactment itself must be consulted; but the previous permission, approval, consent or sanction of the Local Government is required in the following matters, viz. :—

Section 4 (1) (c).—Extension of time for giving security.

Section 4 (2).—Permitting license to remain in force instead of revoking it.

Section 5 (b).—Purchase by local authority of a revoked license.

Section 5 (g).—Working of undertaking pending completion of purchase.

Section 7 (1).—Purchase by local authority of undertaking after a term of years.

Section 7 (5).—Agreement between local authority and licensee for working undertaking.

Section 9 (1).—Acquisition of other license or undertaking by licensee or association with other licensee in supplying energy.

Section 9 (2).—Assignment of his license or transfer of his undertaking by licensee.

Section 11 (1).—Exemption of licensee from rendering accounts.

Section 12 (5).—Breaking up private streets or railways or tramways.

Section 13 (3), proviso.*—Permitting temporary aerial line to remain longer than six weeks.

*Section 18 (1).**—Methods of constructing aerial lines.

Section 21 (2).—Making "conditions of supply" by licensees.

Section 23 (3) (c).—Special methods of charging for energy.

Section 27.—Supply of energy outside "area of supply."

- Section 28.*—Engaging in the business of supplying energy without a license. Power to break up streets in such cases may only be given by the local authority, under section 29, when Government sanction has been given. PARA. 24.
—
- Section 30.*—Exemptions from certain provisions of section.
- Section 33.*—In the matter of reporting accidents.
- Section 51.*—Conferring the powers of the telegraph authority on a licensee, subject to conditions.
- Section 55.*—Delegation of certain powers to Electric Inspector.
- Section 57 (2).*—Direction as to acquisition of land by person, not being a company.

SCHEDULE.

- Clause I.*—Extension of time within which certain Acts are to be done.
- Clause II.*—As to audit of accounts, except in case of local authorities.
- Clause III.*—As to separate accounts for all licensed undertakings.
- Clause IV.*—As to compulsory works, when not specified in license.
- Clause XI.*—Maximum charges in certain cases.
- Clause XIII.**—Testing stations.
- Clause XV.*—Testing of works.

In the cases marked *, as well as in sec. 34, the powers may be delegated to an Electric Inspector (section 55).

25. Electric Inspectors and Advisory Boards.—The PARA. 25.
—
duty of seeing that licensees, consumers, owners, and other persons comply with the conditions imposed on them by Electric
Inspectors.
or under the Act and the rules, falls on the various Electric Inspectors appointed under the Act; they are therefore actually responsible for the impartial administration of the law, as the specialist advisers of the Government which appoints them and the expert witnesses for the Crown in any case which comes before the Law Courts, whether instituted by them (section 50) or not. They are not concerned with the *final* interpretation of phrases, which is a matter for the Courts; but, as practical experts (rule 3)

PARA. 25. — acquainted with the commonsense meaning of words, with the requirements of modern electric practice, and with the limits of what is technically and commercially practicable, they are in a position to bring an unbiassed decision to bear on any case with which they are concerned. The rules authorize any Electric Inspector “to enter, inspect and examine any place, carriage or vessel” in which there is believed to be apparatus for the generation, transmission, supply or use of energy in order to see if the rules have been complied with. Various other matters are mentioned throughout the Act and Schedule in which an Electric Inspector is concerned, as follows:—

PART II.

Section 21, as to controlling or interfering with the use of energy. Arbitration is an alternative.

Section 24, as to discontinuance of supply. Also as to receiving deposits from a consumer during the currency of a dispute, by an amendment made in 1922.

Section 26 (4) and (6), as to meters.

PART IV.

Section 33 (2) as to accidents and enquiries.

Section 36, as to appointment of Electric Inspectors.

Section 37 (2), (i), (j), (k), as to rules.

Section 50, as to prosecutions.

Section 55, as to delegation of certain powers to Electric Inspector.

SCHEDULE.

Clause VI (1), as to supply.

Clause VIII, as to supply (by reference).

Clause XIII, as to testing stations.

Clauses XIV and XV, as to testing.

Clause XVI, as to plans.

Clause XVII, as to notice of works.

Electric Inspectors may be appointed both by the Governor-General in Council and the Local Government within such areas and subject to such restrictions as Government directs. Their qualifications may be prescribed by rule [sections 36 and 37 (2) (i)] ; and are so prescribed, by rule 3, though this rule is so drawn as to allow Government great

latitude in applying it—not in order to allow persons to be so appointed who are not competent, but to meet the needs of such special cases as mines and railways, where the strict qualifications of the rule would debar the appointment of officers in every way fit to “exercise the powers and perform the functions of an Electric Inspector.” There is no reason why an Imperial and a Provincial Electric Inspector should not be appointed for the same area, so long as their respective functions are so restricted as not to overlap; this is, in fact, the case in the coal-mining areas of Bengal and of Bihar and Orissa.

An appeal lies from any decision of an Electric Inspector, not specifically stated to be final, to the Government; or by a change made by the Indian Electricity (Amendment) Act, 1922, to an Advisory Board if Government so directs [section 36 (3)].

It is hoped that a reasonable degree of uniformity in technical practice and the working of the rules may be looked for. Nothing like a dead level is intended or required, for local conditions naturally differ greatly in various localities; but, where there is any doubt as to how a given technical rule should be construed, it is highly desirable that the officer concerned should consult his colleagues elsewhere. Several anomalies have occurred for lack of this simple precaution, and a difficult position then arises as regards firms who have branches in different Provinces. Annual conferences between the various Electric Inspectors did much good work in this respect in the past, especially when joint meetings were held with the commercial representatives of supply companies, who hold similar conferences under the ægis of the “British Indian Electric Committee.” The deliberations of the latter body are of great value, but are not issued to the public.

Under section 55, certain powers of a Local Government may be delegated to an Electric Inspector, the matters dealt with being technical, *viz.* :—

Section 13.—As to notice by licensee of new works and matters in connection therewith.

Section 18.—As to construction of aerial lines.

Section 34 (2).—As to defective, dangerous or unlawful works.

Schedule, Clause V (2).—As to requisitions for laying distributing mains.

Schedule, Clause XIII.—As to testing stations.

PARA. 25.
—
Advisory
Boards.

The Governor-General in Council and the Local Government may constitute Advisory Boards (section 35). Though this provision was in the Act of 1903, no Advisory Board was ever formally constituted under that Act; various committees, however, which to all intents and purposes were Advisory Boards, reported at different times on suggested amendments of the Act, the rules and cognate matters.

Similarly, no Board was ever constituted under the present Act between the time of its enactment and 1922. Partly in consequence of this failure to use the machinery set up, the Indian Electricity (Amendment) Act, 1922, made further changes in sub-section (3) of section 35. The original form of this clause in the Act of 1903 was as follows:—

(3) The chairman and, where there are more than two other members, two of the other members, or, where there are only two other members, one of the other members, shall be nominated by the Governor-General in Council or the Local Government, as the case may be, and the remaining members shall be nominated by such local authorities, Chambers of Commerce or other Associations as the Governor-General in Council or the Local Government, as the case may be, may direct.

The intention of the whole of that original section is abundantly clear. Government in administering the Act has a dual function; for while it must protect the interests of the public in general and of consumers in particular, it also is concerned as one of the consumers, especially in those large cities (more or less peculiar to India) where the greater part of the population are Government servants either in civil or military employ. It was therefore felt that Government should be able to remit difficult technical and commercial questions to a competent and impartial tribunal for advice, while retaining its unquestioned right to make the final decision. For this reason, provision was made for the nomination of one or more members of the Advisory Board by non-Government bodies. Such unofficial members, it was confidently anticipated, would be chosen for their impartiality and competence to deal with the particular situation; involving necessarily the consideration of technical evidence from experts called as witnesses by both sides. As, however, no Advisory Board had been constituted up to 1922, the section was reconsidered when the amendment of the Act was decided on. In the "Notes on clauses" of the amending Bill (clause 16 of Bill; see page 27) it was stated that "the addition is proposed with the object of enabling commercial and other interests to

be *more strongly represented* on the Advisory Boards when necessary, the Government being given full discretion as to its constitution." (The italics are the Author's.) The section of the Act quoted above, as amended in 1922, lays down the general lines governing the constitution of these Boards. In a case where considerable commercial interests are involved the formation of an impartial Board *ad hoc* would certainly meet with the general approval of the mercantile community, and some of the non-official members would no doubt usually be nominated by the Chamber of Commerce or Association concerned. These expectations have not been realized. Recently several Advisory Boards have been constituted, and in one instance where Government commercial interests were mainly in question the Board consisted mainly of Government servants, and a recommendation in favour of those interests, and against the licensee, was made on technical evidence which, no matter what the result on the licensee, is bound to have a bad effect. The matter is referred to on page 91. Elsewhere Boards have been constituted to deal with similar questions, not with the happiest results for the future of electricity supply in India.

PARA. 25.
—

Under section 36 (3) an appeal from the decision of an Electric Inspector may, if Government by general or special order so directs, be referred to an Advisory Board. Unless this is done the Electric Inspector, as technical adviser to the Local Government, virtually decides appeals from his own decisions in another capacity.

Under section 38 (3) the expediency and suitability of all rules must be reported upon by an Advisory Board constituted for the whole of India, if one exists, or otherwise by such Board or Boards (if any) as the Governor-General in Council may direct, before the rules are published for general criticism; the Governor-General in Council can, of course, override the recommendations of the Board.

Under clause XI of the Schedule, as amended in 1922, if the local Government contemplates making an order altering the maximum rates in any license it must refer the matter to an Advisory Board; and, if the Board recommends any alteration, the Government may make an order accordingly. This function is referred to above, and more fully discussed on pages 91, 92.

These are the only matters which the Act definitely refers to the deliberations of an Advisory Board, but questions such as the modification or excision of the purchase clauses

PARA. 25.

in a license applied for, or the conditions of a sliding scale in such cases, or the grant of competing powers to a second licensee for supply in bulk or otherwise, would also be suitable for submission to such a Board. The constitution of an Advisory Board rests entirely with Government; the directions in the matter contained in section 35 (3) of the Act of 1910 were repealed in 1922, and what was then sub-section (4) is now (3).

PARA. 26.

Power to
make rules.

26. As to Rules.—The whole matter of rule-making is dealt with in sections 37 and 38. The first of these sections provides for the making by the Governor-General in Council of rules affecting all who come under the Act alike, whether licensees, consumers or users of energy, and for the penalties which may be imposed for their non-observance, while section 38 provides for the publication in draft of all rules after they have been referred to an Advisory Board, if such a reference is made. The power of rule-making cannot be delegated; *vide* “Notes on Clauses” to the *Bill*, under clause 37, in para. 7 of this Introduction.

Rules are not made in connection with the grant of particular licenses; uniformity is aimed at as far as possible, whereas by making separate rules part and parcel of given licenses (as was the case in England at one time) great diversity would certainly result. At the same time the inclusion in licenses of special conditions of the nature of rules, to meet special cases, is admissible; for section 3 (2) (d) in sub-clause (i) specifically states that the license may prescribe “generally as to such matters as the Local Government may think fit.” If the words had been “such other matters” these might have been limited to matters *ejusdem generis*, but the omission was deliberate.

Under section 37 (1)—

Power for
Government
to make
rules.

The Governor-General in Council may make rules, for the whole or any part of British India, to regulate the generation, transmission, supply and use of energy, and generally to carry out the purposes and objects of this Act.

All rules issued under the Act of 1910, before its amendment, extended to the whole of British India; but where any particular rule seems likely to require modification, to suit local conditions or local peculiarities, a proviso will render this possible. If however it were desirable, special rules could be made for special localities; *e.g.*, for the Burma oil-fields or for Coal Mines in a particular area. A case in point is Rule 40-A (coupled with 106-A), under which the

licensing of electrical contractors, etc., is rendered possible. This rule only comes into force in any Province by notification of the Local Government, and has not yet been generally adopted. It originally had the further peculiarity, notwithstanding the remarks above on the delegation of the rule-making power, of authorizing Local Governments to "make rules prescribing conditions" in this matter. This power conflicted with the definition of "rule" in the General Clauses Act, 1897 (*q.v.* in para. 29), as the power to make rules under the Electricity Act is confined to the Governor-General in Council, and any such subsidiary rules would not appear to be "made in exercise of a power conferred by any enactment." The offending sub-rule was repealed in 1933.

PARA. 26.
—

Under the second sub-section of section 37, as amended in 1922,—

(2) In particular and without prejudice to the generality of the foregoing power, such rules may—

- (a) prescribe the form of applications for licenses and the payments to be made in respect thereof;
- (b) regulate the publication of notices;
- (c) prescribe the manner in which objections with reference to any application under Part II are to be made;
- (d) provide for the preparation and submission of accounts by licensees in a specified form;
- (e) provide for the securing of a regular, constant and sufficient supply of energy by licensees to consumers and for the testing at various parts of the system of the regularity and sufficiency of such supply, and for the examination of the records of such tests by consumers;
- (f) provide for the protection of persons and property from injury by reason of contact with, or the proximity of, or by reason of the defective or dangerous condition of, any appliance or apparatus used in the generation, transmission, supply or use of energy;
- (g) for the purposes of electric traction regulate the employment of insulated returns, or of uninsulated metallic returns of low resistance, in order to prevent fusion or injurious electrolytic action of or on metallic pipes, structures or substances, and to minimise, as far as is reasonably practicable, injurious interference with the electric wires, supply-lines and apparatus of parties other than the owners of the electric traction system, or with the currents therein, whether the earth is used as a return or not;
- (h) provide for preventing telegraph-lines and magnetic observatories or laboratories from being injuriously affected by the generation, transmission, supply or use of energy;
- (i) prescribe the qualifications to be required of Electric Inspectors;
- (j) authorize any Electric Inspector or other officer of a specified rank and class to enter, inspect and examine any place, carriage or vessel in which he has reason to believe any appliance or apparatus used in the generation, transmission, supply or use of energy to be, and to carry

PARA. 26.

- out tests therein, and to prescribe the facilities to be given to such Inspector or officers for the purposes of such examinations and tests ;
- (k) authorize and regulate the levy of fees for any such testing or inspection and, generally, for the services of Electric Inspectors under this Act ; and
- (l) provide for any matter which is to be or may be prescribed.

Examination
and publica-
tion of draft
rules.

Under section 38 the rules have to be previously published for criticism, and, before this, they must be examined and reported upon by an Advisory Board constituted for the whole of British India, where one exists ; or, if one does not exist, by such Board or Boards (if any) as the Governor-General in Council may direct. But though the Act says “*shall*” be referred, the subsequent words “(if any)” make the “*shall*” not obligatory. In practice it will no doubt be found desirable to appoint a Board, as the persons affected by the rules are apt to reserve their criticisms until the rules have been passed.

The Crown.

The rules made under clauses (f) and (h) above are made binding on the Crown by the new sub-section 37 (3), added in 1922, as there was some doubt about the matter despite section 30 (3). See under marginal heading of “Government undertakings” in paragraph 24 *supra*.

Penalty for
breach of
rules.

The rules may be enforced by the infliction of fines on those breaking them, up to a maximum of three hundred rupees, with a daily fine for a continued offence which may extend to fifty rupees [section 37 (4) ; originally sub-section (3) but altered in 1922]. For breach of the rules, the penalty is now prescribed in the rules themselves ; and any consumer is at liberty to set the law in motion as an “aggrieved person” (section 50). The penalties prescribed by the rules mostly apply to licensees and “owners” as defined, and on them is cast (by rule 105) the responsibility for observance of any rule which does not apply to other persons ; but rules 106 and 106-A specifically apply to consumers and, as to the latter rule, other persons. It may be presumed that the breach of a rule for which no penalty against the offender is inserted would fall under section 47 of the Act, which enacts a penalty for default in complying with “any of the provisions of this Act,” seeing that the rules “shall have effect as if enacted in this Act.” Whether this be so or not, the absence of a penalty does not rule out the commission of an offence. Rules 41, 42, 44, 45 when broken by a consumer (as they frequently are) are cases in point.

Fines and
their re-
covery.

The manner in which sums and fees may be recovered will be seen in section 54 of the Act, but this does not extend

to fines under the penal clause next following. But here we may refer to the General Clauses Act, 1897 (X of 1897),* which in connection with legislation in India takes the place of the Interpretation Act, 1889 (52 and 53 Vict., c. 63), and contains the following provisions :—

PARA. 26
— —

Section 25. "Sections 63 to 70 of the Indian Penal Code and the provisions of the Code of Criminal Procedure for the time being in force, in relation to the issue and the execution of warrants for the levy of fines shall apply to all fines imposed under any Act, Regulation, rule or bye-law, unless the Act, Regulation, rule or bye-law contains an express provision to the contrary."

The subject matters dealt with by the incorporated provisions of the Indian Penal Code are—63, amount of fine when not expressed; 64, imprisonment in default of payment; 65, limit of term of imprisonment; 66, description of imprisonment; 67, imprisonment when offence punished with fine only; 68, termination of imprisonment on payment of fine; 69, payment of proportional part of fine; 70, time for levy of fine and death of offender.

The Indian Electricity Rules and the annexures thereto are set forth in Appendix I; † the latter are as follows :— The Indian Electricity Rules.

- Annexure 1.* Specification relating to the deposition of silver—Rule 2 (b).
- Annexure 2.* Scale of fees for comparison with Government of India Standards—Rule 5.
- Annexure 3.* Model Form of License—Rule 12.
- Annexure 4.* Model Form of Accounts for local authorities, with 7 sub-heads—Rule 32 (3).
- Annexure 5.* Model Form of Accounts for companies, with 9 sub-heads—Rule 32 (3).
- Annexure 6.* Form of Requisition for laying distributing mains—Schedule, cl. V. (4).
- Annexure 7.* Form of Requisition for Supply—Schedule, cl. VI (5).
- Annexure 8.* Form of Order under Rule 4 (4)—compliance with rules.
- Annexure 9.* Forms of Annual Returns for Mines and Oil Fields.
- Annexure 10.* Log sheet for Mines and Oil Fields.

* See paragraph 29.

† The Author ventures to point out that in documents, sometimes even official documents, Rules under this Act are quoted as "Appendix I"; though a compliment to the commentary, this is incorrect. The Rules and their annexures, as listed above, are merely in the first Appendix to the present work.

PARA. 26.

TABLE III.—THE APPLICATION OF THE RULES TO VARIOUS CLASSES OF PERSONS INTERESTED IN OR AFFECTED BY THEM.

Applicants for Licences	Licensees	Owners, Agents and Managers of				Owners of Electrical Installations who are not "Consumers"	"Consumers" and the Public (including Public Utility Concerns).	Local Authorities	The Crown and the Government (application to only) see Section 37 (3)
		Factories	Mines	Oil Wells.	Tramways or Railways.				
1, 2, 4	1, 2, 4	1, 2, 4	1, 2, 4	1, 2, 4	1, 2, 4	1, 2, 4	1, 2, 4	1, 2, 4	1, 2, 3, 4
—	5, 6	5, 6	5, 6	5, 6	5, 6	5, 6	5, 6	5, 6	—
—	7, 8	8	8	8	8	—	8	8	—
9 to 15	9 to 15	14, 15	14, 15	14, 15	14, 15	14, 15	9 to 15	9 to 15	13(4)
16 to 20	16 to 20	—	—	—	—	—	20	20	19
—	21, 22	—	—	—	21	—	21	21	21
—	23 to 29	23 to 29	23 to 29	23 to 29	23 to 29	—	23 to 29	23 to 29	—
—	30, 31	30, 31	30, 31	30, 31	30, 31	30	30	30, 31	—
—	32	—	—	—	—	—	32	—	—
—	33	33	33	33	33	33	33	33	—
—	34, 35	34, 35	34, 35	34, 35	34, 35	34, 35	34, 35	34, 35	35
—	36 to 39	—	—	—	—	—	—	—	—
—	—	40	40	40	40	40	—	40	—
—	—	—	—	—	—	[40A]*	[40A]*	—	—
—	41 to 68	41 to 68	41 to 68	41 to 68	41 to 68	41 to 68	41 to 68	41 to 68	41 to 68
—	—	—	—	—	69 to 83	—	—	—	—
—	—	—	—	—	84 to 102	—	—	—	—
—	—	84, 85	84, 85	—	—	—	—	—	—
—	—	87, 102	87, 102	—	—	—	—	—	—
—	—	103, 104	103, 104	103, 104	103, 104	103, 104	—	103, 104	103, 104
—	103, 104	103, 104	103, 104	103, 104	103, 104	103, 104	105 to 107	105 to 107	—
—	105 to 107	105 to 107	105 to 107	105 to 107	105 to 107	105, [106A]* 107	105 to 107	105 to 107	—
—	108	—	—	—	—	—	108	—	—
109	109	109	109	109	109	109	109	109	109

* Rule 40A is only in force in certain Provinces, see above

The Author has added explanatory notes to many of the rules PARA. 26.

Table III was drawn up by the Author when the rules were revised in 1922, and it appears (in a slightly modified form) in the official reprint of the rules issued by the Government Central Press, Calcutta; some misprints in the official reprint are corrected in the Author's text. The table purports to show, for ready reference, what rules apply to any particular body or person or may affect such persons. With a few exceptions, the rules generally may concern anyone, just as they all concern the Government which makes them; but the table brings out in particular those rules which do *not* in ordinary circumstances affect certain classes. Naturally if a Local Government owns a public supply scheme, it must comply with the rules applicable to "owners," since the rules are binding on the Crown. Similarly, a local authority *qua* local authority is in a different position to one that is also a licensee.

27. Offences and their Punishment.—Excepting the penalties for breach of the rules just referred to, all penalties are collected in sections 39 to 49 under the italic heading "Criminal Offences and Procedure." The notes on these sections, following the text of the Act, refer to such cases as have been decided in the Indian Courts and to cognate cases under British law. PARA. 27.

The following are the penal provisions, and the headings A, B and C distinguish the penalties for offences attributable to private individuals, licensees, or both as the case may be: Offences by individuals.

A.—OFFENCES BY INDIVIDUALS.

Theft of energy.

39. Whoever dishonestly abstracts, consumes or uses any energy shall be deemed to have committed theft within the meaning of the Indian Penal Code; and the existence of artificial means for such abstraction shall be *prima facie* evidence of such dishonest abstraction.

Penalty for maliciously wasting energy or injuring works.

40. Whoever maliciously causes energy to be wasted or diverted, or, with intent to cut off the supply of energy, cuts or injures, or attempts to cut or injure, any electric supply-line or works, shall be punishable with imprisonment for a term which may extend to two years, or with fine which may extend to one thousand rupees, or with both.

Penalty for unauthorized supply of energy by non-licensees.

41. Whoever, in contravention of the provisions of section 28, engages in the business of supplying energy shall be punishable with fine which may extend to three thousand rupees, and, in the case of a continuing contravention, with a daily fine which may extend to three hundred rupees.

PARA. 27. Penalty for
non-
 compliance
 with order.

42. Whoever—

(a)

(b)

(c) makes default in complying with any order issued to him under section 34, sub-section (2);

shall be punishable with fine which may extend to one thousand rupees, and in the case of a continuing offence or default, with a daily fine which may extend to one hundred rupees.

Penalty for
 illegal trans-
 mission or
 use of
 energy.

43. Whoever, in contravention of the provisions of section 30, transmits or uses energy without giving the notice required thereby, shall be punishable with fine which may extend to five hundred rupees, and, in the case of a continuing offence, with a daily fine which may extend to fifty rupees.

44. Whoever—

Penalty for
 interference
 with meters,
 or licensees'
 works and
 for improper
 use of
 energy.

(a) connects any meter referred to in section 26, sub-section (1), or any meter, indicator or apparatus referred to in section 26, sub-section (7), with any electric supply-line through which energy is supplied by a licensee, or disconnects the same from any such electric supply-line, without giving to the licensee forty-eight hours' notice in writing of his intention; or

(b) lays or causes to be laid, or connects up any works for the purpose of communicating with any other works belonging to a licensee, without such licensee's consent; or

(c) maliciously injures any meter referred to in section 26, sub-section (1), or any meter, indicator or apparatus referred to in section 26, sub-section (7), or wilfully or fraudulently alters the index of any such meter, indicator or apparatus, or prevents any such meter, indicator or apparatus from duly registering; or

(d) improperly uses the energy of a licensee; shall be punishable with fine which may extend to five hundred rupees, and, in the case of a continuing offence, with a daily fine which may extend to fifty rupees; and if it is proved that any artificial means exist for making such connection as is referred to in clause (a) or such communication as is referred to in clause (b), or for causing such alteration or prevention as is referred to in clause (c), or for facilitating such improper use as is referred to in clause (d), and that the meter, indicator or apparatus is under the custody or control of the consumer, whether it is his property or not, it shall be presumed, until the contrary is proved, that such connection, communication, alteration, prevention or improper use, as the case may be, has been knowingly and wilfully caused by such consumer.

Penalty for
 extinguish-
 ing public
 lamps.

45. Whoever maliciously extinguishes any public lamp shall be punishable with imprisonment for a term which may extend to six months, or with fine which may extend to three hundred rupees, or with both.

Penalty for
 negligently
 wasting
 energy or
 injuring
 works.

46. Whoever negligently causes energy to be wasted or diverted, or negligently breaks, throws down or damages any electric supply-line, post, pole or lamp or other apparatus connected with the supply of energy, shall be punishable with fine which may extend to two hundred rupees.

B.—OFFENCES BY LICENSEES.

PART 27.

42. Whoever—

- Penalty for illegal or defective supply or for non-compliance with order.
- (a) being a licensee, save as permitted under section 27 or section 51 or by his license, supplies energy or lays down or places any electric supply-line or works outside the area of supply; or,
 - (b) being a licensee, in contravention of the provisions of this Act or of the rules thereunder or in breach of the conditions of his license and without reasonable excuse, the burden of proving which shall lie on him, discontinues the supply of energy or fails to supply energy; or
 - (c) makes default in complying with any order issued to him under section 34, sub-section (2);

shall be punishable with fine which may extend to one thousand rupees, and, in the case of a continuing offence or default, with a daily fine which may extend to one hundred rupees.

C.—GENERAL CLAUSE, DEALING WITH OFFENCES EITHER BY A LICENSEE OR ANY OTHER PERSON.

- Penalty for offences not otherwise provided for.
47. Whoever, in any case not already provided for by sections 39 to 46 (both inclusive) makes default in complying with any of the provisions of this Act, or with any order issued under it, or, in the case of a licensee, with any of the conditions of his license, shall be punishable with fine which may extend to one hundred rupees, and in the case of a continuing default, with a daily fine which may extend to twenty rupees:

Provided that, where a person has made default in complying with any of the provisions of sections 13, 14, 15, 17 and 32, as the case may be, he shall not be so punishable if the Court is of opinion that the case was one of emergency and that the offender complied with the said provisions as far as was reasonable in the circumstances.

This latter section covers very wide ground, and may be turned against either the licensee, the consumer, the local authority, or the man in the street. For example, many acts are prohibited in Part II and Part IV of the Act for which no specific penalty is enacted; certain acts may only be done after complying with the conditions, or obtaining the sanction, that the law prescribes; special conditions may be inserted in licenses: the persons concerned may, if they fail to comply with the law, be prosecuted for an offence under this section. The rules "have effect as if enacted in this Act," but in most cases have penalties for their breach in the rules themselves—see preceding paragraph.

By section 48—

The penalties imposed by sections 39 to 47 (both inclusive) shall be in addition to, and not in derogation of, any liability in respect of the payment of compensation or, in the case of a licensee, the revocation of his license, which the offender may have incurred. Penalties not to affect other liabilities.

That is to say the mere imposition of a penalty does not relieve the offender from liabilities otherwise contracted by

PARA. 27. him under the Act. As to compensation see paragraph 15, and as to revocation, paragraph 9.

Penalties
where works
belong to
Government.

The Government does not *require* a license to supply energy; and where an undertaking is purchased by Government, the license, in so far as the Government is concerned, ceases to have any further operation [section 5 (e) and 7 (3)]. Nevertheless section 49 enacts that—

The provisions of sections 39, 40, 44, 45 and 46 shall, so far as they are applicable, be deemed to apply also when the acts made punishable thereunder are committed in the case of energy supplied by or of works belonging to the Government.

It may further be added that, although the *license* ceases to have any operation, the *rules* under clauses (f) and (h) of section 37 (2) are binding on the Crown, as noted in paragraph 26.

Institution of
prosecution.

By section 50—

No prosecution shall be instituted against any person for any offence against this Act or any rule, license or order thereunder, except at the instance of the Government or an Electric Inspector, or of a person aggrieved by the same.

PARA. 28.
Recovery of
fines.

28. Recovery of Fines and other Sums.—Section 25 of the General Clauses Act, 1897 (X of 1897) lays down the law as to the recovery of fines and applies to those imposed under this Act. It runs as follows :—

Sections 63 to 70 of the Indian Penal Code and the provision of the Code of Criminal Procedure for the time being in force in relation to the issue and the execution of warrants for the levy of fines shall apply to all fines imposed under any Act, Regulation, rule or bye-law, unless the Act, Regulation, rule or bye-law contains an express provision to the contrary.

The subject-matters dealt with by the incorporated provisions of the Indian Penal Code may be repeated here, to save reference back,—63, amount of fine when not expressed; 64, imprisonment in default of payment; 65, limit of term of imprisonment; 66, description of imprisonment; 67, imprisonment when offence punished with fine only; 68, termination of imprisonment on payment of fine; 69, payment of proportional part of fine; 70, time for levy of fine and death of offender.

Offences not
punishable
twice.

An offence may be an offence under two or more enactments; for instance under the principal Act and under a Municipal Act or authorized bye-law as well. Section 26 of the General Clauses Act deals with this eventuality as follows :—

Where an act or omission constitutes an offence under two or more enactments, then the offender shall be liable to be prosecuted and punished under either or any of those enactments, but shall not be liable to be punished twice for the same offence. PARA. 28.

The recovery of sums (other than fines) declared to be recoverable under various sections of the Indian Electricity Act, dealing with works and so forth, and the recovery of fees leviable under that Act, is dealt with in section 54 of the Act. These sums "may be recovered, on application to a Magistrate having jurisdiction where the person liable to pay the same is for the time being resident, by the distress and sale of any moveable property belonging to such person." Recovery of sums other than fines.

CHAPTER VI.

THE ACT IN RELATION TO VARIOUS PARTIES.

29. The General Clauses Act (X of 1897).—The Indian Electricity Act, 1910, concerns in one way or another the Governor-General in Council, each Local Government or Administration within its own Province, local authorities within their constituted areas, railway, tramway, gas, water, telephone and other companies, licensees, consumers and the general public. Before reviewing the function and position of each a précis of those provisions of the General Clauses Act, 1897, which have a bearing on the case, will be useful. This applies particularly to provisions regarding Acts repealed and re-enacted and the rules under them, while many terms in constant use in the Indian Electricity Act are defined here. The notes are in some cases abstracted from an annotated edition of the Act. PARA. 29.

The objects of the General Clauses Act are :—

- (1) to shorten the language of statutory enactments,
- (2) to provide as far as possible for uniformity of expression by giving *prima facie* definitions of a series of terms in common use ;
- (3) to state explicitly certain convenient rules of construction ; and
- (4) to guard against slips and oversights by importing by implication into every Act certain common

PARA 29

form clauses, which otherwise ought to be inserted expressly, and which are sometimes apt to be overlooked.

Definitions
from the
General
Clauses Act.

The definitions in section 3 of the General Clauses Act, 1897, are arranged alphabetically, but those germane to our present purpose may conveniently be set out here in a more natural sequence.

"British India" shall mean all territories and places within His Majesty's dominions which are for the time being governed by His Majesty through the Governor-General of India or through any Governor or other officer subordinate to the Governor General of India.

"India" shall mean British India, together with any territories of any Native Prince or Chief under the suzerainty of His Majesty exercised through the Governor-General of India or through any Governor or other officer subordinate to the Governor General of India:

"Government" or "the Government" shall include the Local Government as well as the Government of India.

"Government of India" shall mean the Governor-General in Council or, during the absence of the Governor-General from his Council, the President in Council, or the Governor General alone, as regards the powers which may be lawfully exercised by them or him respectively:

"Local Government" shall mean the person authorized by law to administer executive government in the part of British India in which the Act or Regulation containing the expression operates, and shall include a Chief Commissioner.

"Province" shall mean the territories for the time being administered by any Local Government.

"Local authority" shall mean a Municipal Committee, District Board, body of Port Commissioners or other authority legally entitled to, or entrusted by the Government with the control or management of a municipal or local fund.

"Person" shall include any company or association or body of individuals, whether incorporated or not.

"Presidency town" * shall mean the local limits for the time being of the ordinary original civil jurisdiction of the High Court of Judicature at Fort William, Madras, or Bombay, as the case may be.

"Magistrate" shall include every person exercising all or any of the powers of a Magistrate under the Code of Criminal Procedure for the time being in force:

"Imprisonment" shall mean imprisonment of either description as defined in the Indian Penal Code.

"Rule" shall mean a rule made in exercise of a power conferred by any enactment, and shall include a regulation made as a rule under any enactment.

"Regulation" shall mean a Regulation made under the Government of India Act, 1870.

"Act," used with reference to an offence or a civil wrong, shall include a series of acts, and words which refer to acts done extend also to illegal omissions.

"Offence" shall mean any act or omission made punishable by any law for the time being in force.

A thing shall be deemed to be done in "good faith" where it is in fact done honestly, whether it is done negligently or not.

* In the Indian Electricity Act, 1910, Rangoon is specifically included with the Presidency towns wherever these are mentioned. "Fort William" is in Calcutta.

By section 13 “unless there is anything repugnant in the subject or context (1) words importing the masculine gender shall be taken to include females; and (2) words in the singular shall include the plural and *vice versa*.”

PARA. 29.

By section 14 “where, by any Act of the Governor-General in Council . . . any power is conferred on the Government, then that power may be exercised from time to time as occasion requires.” The official commentator adds that “it seems doubtful whether the section can be applied in the case of a power conferred by a rule made under an Act”; in such cases the words “from time to time” are frequently used in the rule.

The “Provisions as to Orders, Rules, etc., made under Enactments” are important, as in the Electricity Act the lesser details of legislation are all left to be worked out by rules, which have the force of law. Clauses as to rules.

Section 20, as to the construction of orders, etc., may be quoted *in extenso* :—

Where, by any Act of the Governor-General in Council or Regulation, a power to issue any order, scheme, rule, form or bye-law is conferred, then expressions used in the order, scheme, rule, form or bye-law, if it is made after the commencement of this Act, shall, unless there is anything repugnant in the subject or context, have the same respective meanings as in the Act or regulation conferring the power.

Section 21 also must be given in full :—

Where, by any Act of the Governor-General in Council or Regulation, a power to issue orders, rules or bye-laws is conferred, then that power includes a power, exercisable in the like manner and subject to the like sanction and conditions (if any), to add to, amend, vary or rescind any orders, rules or bye-laws so issued.

By section 22, if an Act is passed but has not come into operation, rules can be framed and previously published so as to come into operation contemporaneously with the Act. This was done when the Indian Electricity Act, 1903, was passed.

Section 23 states the provisions applicable where a power to make rules or bye-laws is given subject to the condition of previous publication, as is the case under the Indian Electricity Act, *vide* sections 37 and 38. The conditions are :—

- (1) the authority having power to make the rules or bye-laws shall, before making them, publish a draft of the proposed rules or bye-laws for the information of persons likely to be affected thereby;

PARA 29.

- (2) the publication shall be made in such manner as that authority deems to be sufficient, or, if the condition with respect to previous publication so requires, in such manner as the Governor-General in Council or the Local Government prescribes ;
- (3) there shall be published with the draft a notice specifying a date on or after which the draft will be taken into consideration ;
- (4) the authority having power to make the rules or bye-laws, and, where the rules or bye-laws are to be made with the sanction, approval or concurrence of another authority, that authority also shall consider any objection or suggestion which may be received by the authority having power to make the rules or bye-laws from any person with respect to the draft before the date so specified ;
- (5) the publication in the Gazette of a rule or bye-law purporting to have been made in exercise of a power to make rules or bye-laws after previous publication shall be conclusive proof that the rule or bye-law has been duly made.

The commentator adds that it is clear that amendments may be made without further publication in rules once published for criticism ; otherwise the process would be indefinite.

By section 24, set out in full below, if rules have been made under an Act which is repealed and re-enacted, they will still continue in force, and, if it is desired to supersede them, that must be done expressly. It may, however, be preferable to bring new rules into force simultaneously with the new Act, in which case see section 22 of the General Clauses Act, *supra*.

Clauses as to
repeal.

The effect of repeal, and the construction of references to repealed enactments, both matters concerning licensees who obtained their powers under the Indian Electricity Act, 1903, are dealt with in the General Clauses Act as follows :—

Section 6, as to the effect of repeal, runs—

Where this Act, or any Act of the Governor-General in Council or Regulation made after the commencement of this Act, repeals any enactment hitherto made or hereafter to be made, then unless a different intention appears, the repeal shall not—

- (a) revive anything not in force or existing at the time at which the repeal takes effect ; or
- (b) affect the previous operation of any enactment so repealed or anything duly done or suffered thereunder ; or
- (c) affect any right, privilege, obligation or liability acquired, accrued or incurred under any enactment so repealed ; or
- (d) affect any penalty, forfeiture or punishment incurred in respect of any offence committed against any enactment so repealed ; or
- (e) affect any investigation, legal proceeding or remedy in respect of any such right, privilege, obligation, liability, penalty, forfeiture or punishment as aforesaid ;

and any such investigation, legal proceeding or remedy may be instituted, continued or enforced, and any such penalty, forfeiture or punishment may be imposed as if the repealing Act or Regulation had not been passed.

PARA. 29.
—

Section 8, as to the construction of references to repealed enactment runs—

Where this Act, or any Act of the Governor-General in Council or Regulation made after the commencement of this Act, repeals and re-enacts, with or without modification, any provision of a former enactment, then references in any other enactment or in any instrument to the provision so repealed shall, unless a different intention appears, be construed as references to the provision so re-enacted.

That is to say, any enactment or instrument which refers, *e.g.*, to section 35 of the Indian Electricity Act, 1903, would be construed as referring to section 51 of the Indian Electricity Act, 1910, as amended by the Devolution Act, 1920, and (if it were so) by the Indian Electricity (Amendment) Act, 1922.

Section 24, as to orders, rules, etc., issued under an enactment repealed and re-enacted—as the Indian Electricity Act has been—runs—

Where any Act of the Governor-General in Council or Regulation is, after the commencement of this Act, repealed and re-enacted with or without modification, then, unless it is otherwise expressly provided, any order, scheme, rule, form or bye-law, issued under the repealed Act or Regulation, shall, so far as it is not inconsistent with the provisions re-enacted, continue in force, and be deemed to have been issued under the provisions so re-enacted, unless and until it is superseded by any order, scheme, rule, form or bye-law issued under the provisions so re-enacted.

Section 19, sub-section (1), deals with official chiefs and subordinates and runs—

In any Act of the Governor-General in Council or Regulation made after the commencement of this Act, it shall be sufficient, for the purpose of expressing sundry that a law relative to the chief or superior of an office shall apply to the deputies or subordinates lawfully performing the duties of that office in the place of their superior, to prescribe the duty of the superior. Clauses as to matters.

This, for example, is applicable in the case of an “officer appointed to assist an Electric Inspector”—rule 4 etc.

Sections 25 and 26 of the General Clauses Act are set forth in paragraph 28, *supra*, in connection with the recovery of fines, etc.

Section 27 explains that where any document is authorized or required to be served “by post” it must be sent properly addressed, prepaid and *registered*. The importance of registration in India, where an extraordinary number

PARA. 29. of letters are lost in the post, must be insisted on; this elementary precaution, although statutory, is often overlooked.

The following extracts from the commentary on the General Clauses Act, relating to the power to bind the Crown, are also interesting in view of section 30, sub-section (3), in Part III and section 37, sub-section (3) in Part IV, of the Indian Electricity Act:—

It is a well-established rule in England that the Crown is not bound by a Statute unless it is expressly or by necessary implication named therein, on the ground that the legislature makes laws for subjects and not for the Sovereign. * * * But the rule that the Crown must be named in an Act in order to be bound thereby, appears to apply *a fortiori* to Acts of the Indian legislature. * * * A distinction, however, may be drawn between Acts done by the Government of India in exercise of what are called sovereign powers and acts done in the conduct of undertakings which might be carried on by private individuals without having sovereign powers delegated to them.

PARA. 30.
The Local
Government.

30. The Local Government and its Officers in relation to the Act.—In this and the succeeding paragraphs the duties of various public and private bodies in relation to electrical undertakings are brought together for convenient reference and the Local Government and its officers (other than Electric Inspectors; see paragraph 25, *supra*) will be taken first. The definition of a Local Government is given in paragraph 29. The administrative powers and duties of Local Governments now include also the powers previously vested in the Governor-General in Council with regard to cantonments, subject to the limitation imposed in section 3 (2) (a) (ii) of this Act. Similarly, the powers which the Governor-General in Council exercised under section 51, of conferring the powers of the telegraph authority on licensees (see para. 12 *supra* “Transmission of power lines”) are now to be exercised by the Local Government, the change having been made by the Indian Electricity (Amendment) Act, 1922. As regards the general administration of the Act the reader is referred to paragraph 24, *supra*.

As to works.

The power to break up streets not repairable by Government or a local authority, or railways or tramways, is subject to the written consent of the Local Government in the absence of special powers in the license or the consent of the person by whom the same is repairable, section 12 (5). This matter has been dealt with in paragraph 11, *supra*.

Should the Local Government be the “repairing authority” of any of the streets or the “owner” of any railway, tramway, canal, or waterway in, under, over, along or across which new works are to be carried out, it has to be consulted regarding the matters detailed in section 13; while in connection with sections 14 and 15, dealing respectively with alterations of existing pipes or electric supply-lines and with the laying of new works of these descriptions near existing ones belonging to other parties, the Local Government may come in either as “owner” or as “operator.”

Under section 28 non-licensees are prohibited from engaging in the business of supplying energy without the previous sanction of the Local Government. Should this sanction be given, section 29 determines who shall have power to confer the right of breaking up streets for this purpose on the non-licensee (see paragraph 20).

Where the lighting of any street is in the hands of the Local Government it can obtain a supply from the licensee for any public lamps within the area of supply, by requisition under clause VIII of the Schedule, as amended in 1922. Alternatively, clause V provides for distributing mains to be laid under requisition (*vide* prescribed form in Annexure VI to the Rules in Appendix I). In any case the price to be charged for energy for this purpose, and the manner in which it is to be ascertained, are left to agreement or arbitration by clause XII of the Schedule.

The District Magistrate or Commissioner of Police (the latter where a Presidency town or Rangoon is involved) may direct that a support or stay or strut of an aerial line may be fixed on private buildings or lands without the consent of the owner or occupier [section 12 (2), (3) and (4)] or that it may be removed therefrom. Similarly a Magistrate of the first class or Commissioner of Police, as the case may be, may order a tree or other structure or object, interfering with an aerial line, or its working, or access to it, to be removed or otherwise dealt with, under section 18 (3) or section 29-A. Trees are explained (by an amendment made in 1922) as including “any shrub, hedge, jungle-growth or other plant.” Similar powers, as far as trees alone are concerned, are conferred under the Indian Telegraph Act, when the powers of that Act are conferred on a licensee under section 51 (see paragraphs 12, 14, *supra*).

The District
Magistrate
and Commis-
sioner of
Police.

If a licensee desires to examine and test an unwilling consumer's own wires, fittings, works or apparatus, either

PARA. 30. — to localize a leakage or where an installation is about to be connected, or to see that the consumer is complying with the Act, he may apply for a special order of the District Magistrate or, in a Presidency town, or Rangoon, the Commissioner of Police to do this [section 20 (2)]. If he is still refused entry he may cut off the supply for so long as the default continues, under the powers conferred by the new sub-section (3), added in 1922. The licensee also has similar powers under Rule 24 (2). Should the refusal to allow entry be based upon the rule as to "Mode of Entry," in Chapter VI of the Rules, it will be always possible for the consumer to arrange matters within a day or two; if he does not, it will be clear that the rule is merely an excuse for evading a duty, and the licensee's remedy is ready to hand. No licensee ever wishes to cut off the supply, as he loses revenue. As pointed out elsewhere, the consumer is himself responsible under many rules for the safety of his own installation in relation to other persons; it would be palpably impossible for a licensee to maintain installations not belonging to him with which he is expressly barred from interfering. But if he detects faults that may endanger his supply, he has the right (under stringent safeguards) to interfere.

Notice as to the transmission or use of energy in streets, public places, factories, mines, etc., must be given to the District Magistrate or Commissioner of Police as the case may be under section 30 of the Act (see also section 43). As a matter of administrative routine the Electric Inspector should be promptly notified by these officers with a view to the examination of the installation.

In case of any accident occurring in connection with the generation, transmission, supply or use of energy which results or is likely to have resulted in loss of life or personal injury, notice must be given by the person who owns works (whether a licensee or not) "in such form and within such time and to such authorities as the Local Government may, by general or special order, direct." The requirement is general, and applies to "any person," including consumers, even if the accident occurs on private premises. Until amended as quoted, in 1922, notices were required to be served on the District Magistrate or the Commissioner of Police as well as to the Electric Inspector (see sections 33 and 47).

Individual public officers are protected from the consequence of acts "done or in good faith purporting to be done under this Act" in their official capacity, by section 56, and "good faith" is defined in the General Clauses Act, 1897 (see paragraph 29, *supra*). This provision is very necessary, but it carries with it a very strong obligation of absolute impartiality on all persons (especially Electric Inspectors) who have to administer an Act or rules.

PARA. 30.

As to Electric Inspectors, see paragraph 25, *supra*.

31. Local Authorities.—A local authority means "a municipal committee, district board, body of Port Commissioners or other authority legally entitled to, or entrusted by the Government with, the control or management of a municipal or local fund"—section 3 (28) of the General Clauses Act, 1897 (paragraph 29, *supra*).

PARA. 31.
Definition.

The treatment of the position of the local authority is a somewhat delicate matter. In Great Britain such a body is supposed to represent the views of the majority of the electors in its area, though it is noticeable that the great majority of the individuals concerned take no interest whatever in local politics, so long as their pockets are not endangered. It is doubtful if many Indian municipalities are at present competent to organize and successfully work schemes for electric-supply, but 50 years may alter all that and it is necessary to look to the future; in fact the Municipal Committee of Darjeeling possessed the first public electric supply undertaking in India, in 1897, while the Municipal Committees of Mussoorie, Simla and other towns are also licensees under the Act. In this Act the powers of the local authority are largely subject to the previous sanction of the Government, which will prevent that abuse of their powers which has not been unknown in other countries. The Institution of Electrical Engineers, during the course of an investigation as to the cause of the backwardness of the electrical industry in England, came to the conclusion that the main reasons were "exceptional legislative enactments, official regulations, and the powers of local authorities," and there is a good deal of truth in that view. A Bill was introduced by Mr. Patel into the Imperial Legislative Council in 1918-19 conferring more extensive powers on local authorities and bringing parts of section 3 back to the form of the 1903 Act; in particular the Bill proposed to give a local authority's *subsequent* application for a license priority over

PARA 31. the earlier application of a company or other applicant. This would have meant that wherever a promoter, after investigating the conditions, was satisfied that an undertaking would pay, and where he consequently applied for a license the local authority would have had the right to step in and reap the fruits of the promoter's labour and expenditure. Mr. Patel's Bill was thrown out by the Council as the result of the strongly worded protest of Sir Thomas Holland, then Member of Council for the Department of Industries and Labour, in its earlier form as the "Board of Industries and Munitions."

As to
licenses

A local authority may obtain a license under section 3, or, if it wishes to engage in the business of supplying energy without a license, section 28 must be complied with (see paragraph 20). A few special provisions apply particularly to local authorities as licensees, *viz.*, section 3 (2) (c) and section 6, while certain other provisions do not apply to them as such, *viz.*, sections 5, 7, 8 and 10, and, as regards their own streets, pipes, etc., sections 12 (5), 13, 14 and 15. To these provisions may be added clauses I and II of the Schedule. In general, however, they come under the same obligations, conditions, etc., as if they were companies. Obviously their undertaking will not be liable to purchase, compulsory purchase existing exclusively for the ultimate benefit of the community through the local authority or the Government.

Where a company is an applicant, the local authority cannot veto the grant of a license. The consent of the local authority concerned is not required as in England, but all objections of the local authority or others concerned, received within three months of the date of first publication of the application, must be considered by the Government before the license is granted [section 3 (2) (a)]. If the local authority or anyone else desires to have any clauses or amendments inserted in the license, the rules under section 37 (2) (c) provide for the submission of the same to the Government for consideration. After a term of years the local authority has the right of buying the undertaking on the terms laid down in section 7, unless these have been modified at the time the license is granted under section 10—see paragraph 10 of this Introduction, "Compulsory Purchase." The right to purchase may accrue at an earlier date, under section 5, if the license is revoked for any cause—see paragraph 9, *supra*.

Should the local authority desire to take over the undertaking at any earlier date there is nothing in the Act to prohibit this, provided that the licensee agrees as to terms and obtains the sanction of Government to assign his license and transfer his undertaking [section 9 (2)]. In such cases the price would of course be a matter of mutual agreement, entirely outside the Act, the undertaking being sold as a going concern. A good many such transfers have taken place in Great Britain, at premia varying from 20 per cent. to over 100 per cent. on the capital value. The matter is discussed in paragraph 10 of this Introduction.

PARA. 31.

Where the local authority is also the licensee the provisions of sections 13 to 15 are to some extent inapplicable [see, e.g., section 15 (6)]. Where another party is the licensee the local authority is entitled to receive notice as to all works carried on in its streets, near its pipes or sewers, etc. And, again, if the local authority is working near the licensee's wires or works notice must be given by it to the licensee according to the provisions of sections 14 and 15. All these sections must necessarily be studied in detail. It is not at all an uncommon thing for a local authority to allow consent by default [see section 13 (1) (c)].

As to works.

The written consent of the local authority is required for breaking up streets by a licensee outside his area of supply, for the purposes of section 27. In the absence of statutory powers it is very doubtful if a local authority, or even a Local Government, can authorize the breaking up of any street; but this has often been done and once works have been laid down, legally or otherwise, it is no easy matter to enforce their removal—see paragraph 20; *Battersea Vestry v. County of London and Brush Provincial E.L. Co.*, 1899, L.R. 1 Ch. 474. In section 27 the necessary statutory authority is conferred by Government, and the consent of the local authority is a condition precedent to its exercise by the licensee.

Where a non-licensee has obtained the sanction of Government to engage in the business of supplying energy under section 28, the local authority is expressly empowered by section 29 (1) to confer and impose on him "all or any of the powers and liabilities of a licensee under sections 12 to 19." It may be assumed that the conditions which the Local Government may fix when giving its sanction under the former section will be such as to safeguard the public from anything in the nature of monopoly on the part of the

PARA. 31.

supplier of energy and also from the misuse of the very wide powers conferred on the local authority. It is not in the interests of the public or of the local authority that supply without license should be encouraged generally; the provision has been inserted to meet special cases. The matter has been discussed in paragraph 20, *supra*.

Where a local authority proposes to adopt electric lighting in its streets the powers and liabilities of a licensee under sections 12 to 19 are conferred and imposed on it under section 29 (2). This is to meet the circumstance of energy for the purpose being purchased from an outside source or generated by the local authority itself without a license. Some local authorities may have power to light their streets by means of any illuminant, and to do all acts necessary for the purpose, under their own Municipal Acts; but this general provision will meet cases where no such provision exists.

Any person using electricity for any purpose may require to lay down or place electric supply-lines in a street, as, *e.g.*, in the cases which fall under section 30 (1) clause (a). The Act of 1903 compelled such a person to give notice and to comply with rules, but it made no provision for the breaking up of streets. This omission is made good in section 29 (3) of the present Act, which enables the person responsible for the repair of any street (generally, but not necessarily, the local authority) to confer and impose certain limited powers on the person who proposes to transmit or use energy in such street. The street may be broken up and electric supply-lines may be laid down or placed to the extent allowed under this sub-section, but before energy is transmitted or used at a rate exceeding 250 watts in these electric supply-lines notice must be given in accordance with section 30 and the other prohibitions in that section must be duly considered.

As to public
lighting.

Sections VIII and XII of the Schedule to the Act provide for the supply of energy to public lamps, which can be obtained by requisition of the local authority to the licensee as regards lamps within the latter's area of supply and under the former's control. The price of energy for this purpose is to be settled by agreement or arbitration, and should not (as has several times occurred) be entered in the license. Clause V provides for the laying of mains under requisition. Clause VII has been substantially amended in 1922, in consequence of the alterations in Clauses VI and VIII,

where the words "within the area of supply" have been substituted for the words "within 100 yards from any distributing main." PARA. 31.

Apart from the specific cases of default provided for in various sections, a local authority may be liable to penalties under section 47 for breaches of the Act. Individual servants of a local authority are protected from the consequences of acts done in good faith in their official capacity, by section 56. The definition of "good faith" will be found in paragraph 29. Default.

If a local authority is licensed to supply energy it may obtain a supply from a "bulk licensee," if one exists in the neighbourhood; see clause IX of the Schedule and the proviso to section 3 (2) (f) of the Act. Dehra Dun Municipality obtains its electric supply in this way from Mussoorie. As to bulk supply.

32. Relation of various Authorized Persons to Licensees.—Persons or companies having statutory rights (other than the licensee in any particular instance) come into this Act chiefly in relation to works. In this connection *vide* paragraphs 11, 12, 15, 20, 21, 22 and 27 of this Introduction. PARA. 32.

Public and private roads containing pipes for gas, water, etc., or other wires, may be opened up by licensees, wires laid near the pipes, and the positions of pipes or wires altered—but only under the procedure laid down in sections 12 to 16. Authorized persons or companies themselves may in the same way lay pipes or wires near the licensee's lines, or may remove these latter under the same procedure. Railways and tramways may be crossed under the restrictions in section 12 and the following sections; at the same time by section 31 railways, tramways, canals and waterways may not be injured nor the traffic thereon obstructed or interfered with. The provisions in question really refer only to running electric supply-lines above or below the railways, etc., and powers would only be given for specific work fully described—see the rules. The proposals have to be publicly advertised before compulsory powers are given, but of course the matter may be settled by agreement. In any case, under section 19, the licensee must "cause as little damage, detriment and inconvenience as may be" and must make "full compensation" for what he causes. Gas and water companies, etc.

Telephone companies come into the Act as being licensed by the Government under section 4 of the Indian Telegraph Telephone companies.

PARA. 32. Act, 1885. Under section 3 (1) of that Act, "telegraph" includes "appliances and apparatus for making, transmitting or receiving telephonic communications by means of electricity." Under section 3 (2), *idem*, a telegraph officer includes officers of a telephone company, and so forth. The rights and liabilities of a licensee therefore apply in the case of licensed telephones as though they were telegraphs. Extracts from the Indian Telegraph Act, 1885, including new clauses relating to licensees of the Telegraph authority, added at a later date, will be found in paragraph 12, *supra*. Submarine cable companies are in the same position practically as they are in England and other parts of the Empire, where decisions of Parliament have defined practically how they stand. In this connection the cases of the *Eastern and South African Telegraph Co. v. Cape Town Tramways Co.* (see para. 36 *post*) decided by the Privy Council, L.R. [1902], A.C. 381, and of the Weston-Super-Mare Tramway Bill, 1900, reported in the *Electrician*, for July 6th, 1900, page 414, may be read.

PARA. 33. **33. Licensees, Consumers and the Public.**—The overlapping point between the licensee who supplies energy, the consumer who uses it, and the public who may be affected by defective works in connection with either the supply or use, obviously occurs at some point between the licensee's mains in the street and the consumer's installation on his premises. A case which turned upon this overlapping point came before the courts in Rangoon during 1932-33; but it was, and will probably remain, unique and incapable of becoming a precedent.

Responsibility of licensee for works put up by a consumer; liability for accidents; interpretation of rules.

The licensees (Rangoon Electric Tramway & Supply Co., Ltd.), were prosecuted at the instance of the Electric Inspector, Burma, under section 50 of the Act, for breach of Rules 37 and 107, in failing to maintain in a safe condition an overhead line erected by a consumer. They were convicted and fined by the magistrate, and on appeal to the High Court the conviction (except as regards a personal and alternative sentence on the Agent) was confirmed. It is not for the Author in any way to criticize the judgment either in the lower Court or on appeal; but the facts of the case as officially stated and certain aspects of the deposition of the Electric Inspector merit full report, especially in view of the fact that (in his evidence on cross-examination) the latter stated that he regarded the Author as "an electrical expert of unimpeachable authority." Certainly as such he can say that the intentions of the framers of the law are not borne out by the decision as to the legal meaning of it, and, in view of the possibility of the case being quoted as a precedent, the basic principle in view when framing the safety provisions of the Act and the rules may be re-stated.

That principle is that the licensee shall be responsible for all his own works,

wherever situate, and for any other works not belonging to him but under his control ; and that other persons (whatever their status) shall similarly be responsible for works belonging to them *and* under their control. This principle is shown, as well as legal draughtsmen could show it, throughout the Act, the Schedule and the rules ; the incidence of the responsibility in any particular case is for the courts to decide on the evidence put before them. Bearing in mind the bad quality of a large proportion of the installation work done by contractors in every part of India, which has been responsible for many fatal accidents, the Bombay Government instituted a system of licensing contractors (see rule 40-A and notes), but their example has not been generally followed.

First consider a hypothetical case somewhat resembling the one in question. A person having a house and garden with outhouse and garage demands a supply from a licensee. The house, etc., have been wired by an expert contractor, and the requirements of the rules have been complied with. The garage (or one of the outbuildings) is near the street where the mains are, but the house is not. The contractor, therefore, erects a bare overhead line between the various buildings, and puts his main switchboard and his statutory cut-outs (rule 44) in the subsidiary building near the road, demanding a supply at that point. The licensee *must* comply with the requisition [Schedule, cl. VI. (I)] if the conditions there imposed are fulfilled ; he may not in any way control or interfere with the use of the energy (sec. 31) except in certain circumstances laid down (see Index : "Cutting off Supply"). He therefore lays down a service line from his mains to the licensee's main switchboard, and puts his own cut-outs (rule 38) and meter there, constituting "the point of commencement of the supply"—rule 31. Now in this clear case it could not possibly be disputed :—

- (a) that the service line ends at the point of commencement of the supply :
- (b) that the licensee's responsibility under rule 37 for what belongs to him or is under his control ends at that same point : and
- (c) that the consumer is responsible under rules 41, 42, 44, 45 (and others applying to him), for everything beyond that point.

An accident occurring beyond the point where the supply is delivered, whether due to *force majeure* or lack of proper maintenance could neither in law nor in equity be charged against the licensee. The accident might be due to any one of a hundred causes, either inside the house or on the overhead line—for example, a broken earth wire : an accidental contact from line to metal : exposed conductors such as heater wires or wires for electro-culture or a burglar alarm ; unearthed lead-covered wires indoors, etc. Such, at least, was the Author's intention when framing the Act and the rules, and he still believes it so.

The actual case, however, is less simple, owing to the fact that *both licensee and consumer failed ab initio to comply with the rules* ; nevertheless, it may be laid down as axiomatic that the licensee cannot possibly know if all his hundreds (or thousands) of consumers have complied with and continue to comply with the rules, on their own premises, and the law throws no *obligation* on him to do so, though it gives him certain *rights* if he ascertains that they have not done so.

The following details are abstracted from the official reports. A certain U. Lun was the owner of the premises, in which were two houses. These were connected to the company's supply-lines in the street by an overhead line of several spans erected by the owner of the premises, which the Electric Inspector pronounced to be a service line, thus somewhat prejudging the issue, though that point was not actually settled authoritatively. The terminal wooden pole of this overhead line was illegally placed in the public road, outside the consumer's premises ; it was there supported by a galvanized iron stay wire "tied to a wooden peg in the ground. This stay wire runs on some of the consumer's wooden poles, under the electric wires, but is nowhere earthed as required under rule 39 (2)." A coolie touched this stay wire and was

PARA. 33.

killed, other persons having previously received shocks from it (at 230 volts, alternating current). The stay wire was "continuous with" a bearer wire running along the line. The bearer wire carried a lead-covered cable leading to one of the houses, and was rendered "live" from it; while a V.I.R. cable leading to the other house "was found to be fouling the stay wire clamp." The insulation resistance between the stay wire and the phase of the line was zero; and even after one fault had been cleared it was under 1000 ohms. The Government engineer who reported the above facts to the Electric Inspector pointed out that there were breaches of the rules as follows :—

- Rule 39. Stay wire not earthed.
- Rule 45. Lead covering of connecting cable and of the supporting wire not earthed; and lead covering of wiring inside the houses not earthed. Consumer had admitted getting shocks off the wires indoors.
- Rule 41. Lines not properly maintained.
- Rule 67. Suspension of cables not in accord with rule.
- Rule 38. No cut-outs in any of the houses.
- Rule 37. At one pole the bare copper wires were not supported on the insulators, but were "nailed on the wooden bracket."

The above facts were not in dispute; the question at issue was that of responsibility; but the above disclosures from the report are an illuminating commentary on the electrical contractor who carried out the work. The author has seen similar work in every part of India.

In his letter of complaint to the Magistrate, before instituting the prosecution, the Electric Inspector recites the facts and states that "the service line . . . was in a dangerous and unsafe condition, and had not been maintained by the company in accordance with rule 37 and clause VI. (2) of the Schedule." The first part of this statement prejudices the question of law, as to whether a line erected by a consumer for his own use can be a service line as defined; the case turns on the second part, which the Inspector again prejudged. The report of the licensee's mains foreman, also put in evidence, confirms the condition of the lines, stating that "the leakage of current on to the stay wire was due to fault on consumer's own lines," which were "in a most unsatisfactory condition."

The ownership of the line was not in dispute; the responsibility for its condition was at issue. The distance between the consumer's last pole in the street and the licensee's mains was bridged by the licensees, who put both their meter and their cut-outs on their own pole (*i.e.* in the street, and *not* on the consumer's premises), in a sealed receptacle. It is clear that under rule 31 (a) the meter was the "point of commencement of the supply," but this does not settle the matter of responsibility in law, though it confirms the Author's opinion that rule 31 (a) should be expunged, and that the licensee's cut-outs should, as in Great Britain, invariably indicate that point. But under rule 38 the licensee's cut-outs shall be inserted "*in each service line . . . within a consumer's premises*"; and *these cut-outs were not so placed*. There was therefore an unquestionable breach of rule 38, though this point did not come up. In the Author's opinion, the method employed is inherently inadvisable and unsound, as well as illegal, and was the *fons et origo mali* in the case.

In what follows, the author comments on various points in the Inspector's depositions to the Magistrate, in so far as they are of general interest elsewhere in India. He deposed "My contention is that the licensee is responsible for the maintenance of such a line" (*i.e.* the line that caused the accident), "and not the consumer. In support of this contention, I invite a reference to rule 34, where it is stated that the rules in Chapter V. apply to every licensee and to every owner." But the rule in question says "unless there is anything repugnant in the subject or context" and

the most casual reading of the rules in that chapter show that many of them *also* apply to the public in general, including consumers; *vide* rules 41, 42, 44, 45 among others, all of which were shown by official evidence to have been broken as regards works by "the person to whom the same belongs." The disputed question as to whether the consumer was an "owner" *as defined* was not specifically decided, except by the Inspector, who said that as the definition of owner did *not* cover the consumer, "he cannot be held liable for a breach of the rules." As shown above, the responsibility of the consumer for what *belongs to him* is clearly laid down in four important rules, and is implicit in others. But, furthermore, as the consumer in this case put up his own pole in the public roadway [whether with or without the sanctions required by section 29 (3), but manifestly within the mischief of section 30 (1) (a)] and transmitted energy at a rate exceeding 250 watts through it, it appears to the Author that he was "a person . . . transmitting energy to whom any of the provisions of Part III of the Act apply" and therefore an "owner" [rule 2 (x)].

This aspect of the case appears to have been overlooked, as the lower Court decided on the Inspector's evidence that the consumer was not an "owner" because he was not "*using* energy" [in the defined and restricted sense of "*use*," rule 2 (cc)] in the street. But his unquestionable liability under rules 41, 42, 44 and 45 is in no way dependent upon his being an owner. Further, the Inspector said in his deposition, "Rules 34 (2) and 107 also do not apply to the consumer." Assuming that 34 (2) is a clerical error for 39 (2)—as there is no such rule—this is "a precaution to be adopted by licensee," and it is true that neither it nor rule 107 applies to a consumer; but rule 105 does so apply, and, as no penalty is attached to its breach, it presumably falls under the penalty in section 47 of the Act, seeing that the rules "have effect as if enacted in this Act." * The consumer was not prosecuted.

Incidentally, the Electric Inspector stated that "the dangerous condition of the line would only be apparent to a fully qualified expert supplied with suitable instruments, and who has control of the supply of energy and can at will render the same dead. . . . Such person is the licensee." This hardly tallies with the previous statement that the consumer admitted getting shocks off his wiring and that other persons had received shocks from the stay wire; furthermore, every electrical contractor is presumed to have both the technical knowledge and the instruments for proving that his work is sound, a fact of which the Inspector cannot have been unaware. The licensee also, of course, has that knowledge. It will be observed that the Inspector threw the onus on the licensee because he was presumed to have technical skill and the *sole* means of rendering the line "dead." To prove this, he pointed out that the licensee could *alone* disconnect the line at his cut-outs on the street pole. That is not the case. If the stay wire, bearer wire and lead-covered wire had been properly earthed, then, when a fault occurred, the circuit would have been *automatically interrupted* by the fusing of the licensee's cut-outs; that indeed is their function, as all electrical engineers (and most first-year students) know. Nevertheless, by illegally placing their cut-outs on their own pole in the street, instead of in their proper place on the consumer's premises, the licensee did, in fact, have a means of electrically controlling the supply to the premises which was (by that illegal act) denied to the consumer; the latter could not, even if he had so desired, insert any means of cutting off the power from the length of line between the licensee's post and his own post, where the accident occurred. This is where the case is unique, and likely to remain so; and, in equity at least, justifies the conviction of the licensee. Ordinarily, there is no question where the licensee's responsibility ends and that of the consumer begins. The physical control which the consumer, as sole

* This assumption has not been decided one way or the other by any Court.

PARA. 33. owner of the line, possessed, was abrogated by his lack of any means of practical, i.e. electrical, control.

Coming now to the Criminal Regular Trial (No. 208 of 1932), *King-Emperor v. Rangoon Electric Tramway & Supply Co.*, the Magistrate said that the case was "one which by its complexity would more properly be decided by the High Court," as it eventually was. The facts were admitted by the defendants, and the case turned on whether the faulty line was "under the control of" the licensee; and in this matter the particular points in the Government Electric Inspector's evidence commented on above were almost necessarily accepted by the Court as both impartial and expert. It was held by the lower Court (incorrectly, in the Author's opinion) that rule 41 had no application to the consumer, in view of the wording of rule 34, *q.v.* above; and that the consumer was not an "owner" because he was not *using* energy in the street, *q.v.* above. The Magistrate held that the line was under the control of the licensee because he alone could exercise control of the current in the line from the street to the house, *q.v.* above. Further, the Magistrate held that the licensee could not, by placing his meter in the street, "arbitrarily determine what is and what is not a service line"; and that the whole line to the houses was a service line. This last point was not decided by the High Court. The licensee was fined Rs.51 for breach of rules 37 and 107.

The licensee appealed to the High Court against the conviction; *Rangoon Electric Supply & Traction Co. v. King-Emperor*. The Chief Justice and Mr. Justice Mya Bu delivered separate judgments against the appellants. After stating the undisputed facts, the Chief Justice continued:—

"... It is clear that the wire from the company's post to U. Lun's house was not maintained in a safe condition.

"It is further to be borne in mind (i) that the man met his death on a public road, (ii) that the appellant as licensee alone was entitled to erect the wooden pole and stay-wire on the road where the coolie was killed, (iii) that a meter was set up by the appellant in a concrete box (with fuses inside under lock and key) on the concrete post belonging to the appellant on the side of the road further from U. Lun's premises, (iv) that there was evidence,—and for the purpose in hand it may be assumed—that the wooden post on the road and the *electric supply line* connecting the concrete post of the appellant with the wooden post, and thereafter with the premises of the consumer, were constructed by U. Lun with the consent of the appellant, (v) that the appellant alone was entitled and able to render 'dead' the electric supply line from the concrete post until it reached the switches in the consumer's house.

"Now, electricity is a highly dangerous element, and its generation and transmission, unless carried out with skill and care, may cause the death of any person who comes into contact with it.

"For this reason a great responsibility is laid upon persons or undertakings like the appellant company, who are granted a licence to generate, transmit or supply electricity in any particular area. No persons, other than licensees or persons entrusted with powers in that behalf under Part III of the Act, are entitled to carry on the business of supplying electric energy, and, in my opinion, it is clear that the appellant is under an obligation to see that the electric supply lines, until they reach the consumer's premises, and also after they have been carried into the consumer's premises, so long as the appellant retains control of the current thereby transmitted, are maintained in a safe condition.

"The case presented on behalf of the appellant company is simple and clean-cut, but, in my opinion, it cannot be sustained. It is contended that the responsibility of the appellant as licensee for the maintenance of the electric supply lines in a safe condition ends at the meter, which under rule 31 is "the point at which the supply of energy by a licensee to a consumer shall be deemed to commence." On behalf of

the appellant it is urged that the obligation of the licensee to protect the public from danger through contact with the electric current by reason of faulty lines or works ceases after the electric energy has been supplied to the consumer, and that thereafter the responsibility for maintaining the lines and works in a safe condition falls upon the consumer.

PARA. 33.

" . . . But the appellant contends that if the consumer elects to take a supply of energy from the appellant's distributing main at any point outside his premises, as in the present case, and receives the supply through the appellant's meter, and thereafter it is conveyed through a line which has been constructed by the consumer and at his cost, the obligation to keep in a safe condition the line and works from the point of commencement of supply (*i.e.* the meter) to the consumer's premises, and also the line and works on the consumer's premises, is cast upon the consumer and not on the licensee. In my opinion, such a contention cannot be accepted, for it runs counter to what I conceive to be the object and effect of the Indian Electricity Act. As I read the provisions of the Act and the rules made thereunder the licensee is not entitled by agreement with the consumer to release himself from the obligation to see that the lines, apparatus and works by which electricity is transmitted, *so long as he retains control of them*, are maintained in a safe condition, because this obligation is cast upon him not merely for the benefit of the consumer and the licensee, but also for the protection and in the interest of the public generally. Now, was the defective supply line in U. Lun's premises, and the dangerous stay-wires in the road outside U. Lun's premises,—which were the cause of Yankasami's death—under the control of the appellant? In my opinion, it cannot be doubted that they were. Who could render the supply line 'dead,' and the line and stay wire innocuous? The appellant, and no one else. By means of the apparatus enclosed in the concrete meter box the supply of current to U. Lun, the consumer, was not only measured but controlled. Any person other than the licensee or an agent or servant of the licensee duly authorized under the Act who interfered with the meter box would commit an offence, and in the present case it is common ground that the appellant alone could render 'dead' the supply line between the concrete post on the appellant's distributing main and the switches in U. Lun's house.

" . . . The result is that the conviction and sentence of the appellant in the alternative is set aside, the appellant is found guilty of an offence under rule 107 of the Indian Electricity Rules for committing a breach of rule 37, and the appellant is convicted of the said offence, and sentenced to pay a fine of Rs.51."

Mr. Justice Mya Bu said :—

" I concur in the judgment of the learned Chief Justice.

" I have no doubt that the appellant company is guilty of an offence under rule 107 read with rule 37 of the Indian Electricity Rules, 1922. Rule 37 applies to all electric supply-lines, and in considering whether the case is governed by this rule or not, it is unnecessary to determine whether the line in question is a service-line or not. Under this rule the licensee is responsible that all electric supply lines under his control, even if they are on a consumer's premises, are maintained in a safe condition. Therefore, the question that falls for determination in this appeal with reference to rule 37 is whether the line from the concrete post outside U. Lun's compound to his house was at the time of the fatal accident under the appellant company's control or not. It is obvious that as a matter of fact the line was under the control of the appellant company, because it was only the company who could make the line 'dead.' Interference with the live electric wire cannot normally be undertaken without the risk of bodily injury, and, therefore, it is impossible to conceive of any person other than the company being normally in a position to interfere with the line in question without reference to the company. In my opinion the provisions of rule 31 deal with the point of commencement of supply of energy

PARA. 33. by the licensee to the consumer and not with the question of control over an electric line as a matter of fact. Rule 31 is one of the rules relating to the conditions of supply, which is a matter of concern between the licensee and the consumer rather than a matter affecting the public; whereas rule 37 is one of the rules of precaution for the safety of the public. In truth and in fact the consumer gets the use of the control of the electric current only when it reaches his switch and not as soon as it passes through the meter, and it would be opposed to the real facts to say that the line in question was under the consumer's control. I am unable to subscribe to the view that the point of measurement of the supply, which is a matter affecting only the licensee and the consumer, affects the question of control over the supply-line with reference to the regulating of responsibility in a matter of public concern, so as in law to run counter to the real facts."

The High Court did not confirm or otherwise the magistrate's judgment that the private line erected by the consumer was a service line. The moral of the case is that the licensee must not only place his cut-outs (and meter) on the consumer's premises, but must also insist, before connecting up, that the consumer inserts his cut-outs as close as possible to them.

(*Rangoon Electric Tramway & Supply Co. v. King-Emperor. Rangoon Daily News*, Feb. 8, 1933; *The Weekly Rangoon Times*, Feb. 5, 1933.)

The licensee. It is not necessary further to enlarge here upon the relative position of the licensee and consumer as regards the details of the Act, since it is already discussed in preceding paragraphs of this Introduction in relation to all important points. But a few general remarks may be made. An intending licensee asks for a license under the Act. Such a license, though not a monopoly,* is usually likely to dissuade any other person from attempting competition. A license costs very little but at the same time it confers valuable privileges. After a certain number of years the local authority, and in certain events the Government, may have the right to buy up the concern.† During the currency of the license, the licensee can charge what he chooses, up to a certain maxima, which are fixed by the license and are subject to modification after seven years and at subsequent intervals of five years‡—the actual price, however, is generally a matter of supply and demand and seldom even approaches the statutory maximum after the undertaking has been at work for a few years, though both actual and virtual compulsory reductions of selling prices have recently been enforced on licensees in several

* Section 3 (2) (e).

† Paragraphs 9 and 10 of Introduction, *supra*.

‡ Paragraphs 18 and 25 of Introduction, *supra*.

places ; see pages 91, 92. In return he is bound to supply energy to all and sundry who may apply for it, in the manner laid down in the Act, showing no undue preference to any one, though he is protected from unreasonable demands in many sections. The supply must be continuously available unless the license otherwise provides, and it must be steady as to pressure and frequency (see paragraph 16). As regards works, the Act gives the licensee all facilities and regulates his relations with all other parties, and the license lays down all necessary conditions in this respect. The rules are for the most part drawn up to protect the public ; and a conscientious licensee is hardly affected by them since he would in any case carry out his works properly. The applicant for a license should study the rules carefully.

PARA. 33.

By a new sub-section (2) to section 21, added by the Indian Electricity (Amendment) Act, 1922, the licensee is authorized to make "conditions" to regulate his relations with actual and potential consumers, subject to certain safeguards. Hitherto such conditions have always been in fact made, though they were not binding ; and the conditions were often inconsistent with the Act or the rules. Any such conditions must now be made valid by sanction of the Local Government, in so far as they are not inconsistent with the Act or the rules or the license. If they are not in order they may, and should, be cancelled.

It may be noted that the accounts of different undertakings of the same licensee *must* be kept separate from each other and from those of other businesses (Schedule, clause III), and that he may neither get rid of his undertaking nor associate himself with another similar one without consent (section 9). So far as separate accounts are concerned this is far from being the case with certain companies working combined undertakings for general supply and electric traction in Bombay, Cawnpore, Delhi, Rangoon and Mandalay.

Consumers are not likely to be greatly troubled by the provisions of the Act. What a consumer requires is a regular and steady supply of energy at a reasonable cost. He cares nothing how it is generated and distributed so long as it keeps on continuously. Every person within the area of supply is entitled to a supply on the same terms as any other person, except in so far as is otherwise provided by the license, so long as the conditions are the same (section 22). Certain statutory terms are set forth in detail in the Schedule (clause VI). The consumer who wants a supply

PARA. 33. requisitions the licensee, and, if necessary, offers security, and pays the cost of the service-line* so far as it is laid on his property or more than 100 feet from the distributing main. The prescribed form of requisition under clause VI (5) of the Schedule is given in Annexure VII to the rules; *vide* Appendix I. In order to ensure a supply he should ask in good time, for there are often a number of prior applications awaiting their turn, and it may also happen that the licensee has to lay down further mains before supplying energy—see clause VI (7) of Schedule, 4th proviso. Should there be no distributing main near the building requiring power, the consumer might have to pay for a very long and costly service-line, in which case clause VII of the Schedule is operative. Under this provision the licensee must let all and sundry persons in the neighbourhood know that the special service-line is about to be laid, in order that others desiring a supply may obtain it by arranging for the distributing mains to be extended at the same time. Or, again, the prospective consumer may find other owners or occupiers near who also require a supply, and they may serve a joint requisition on the licensee in accordance with clause V to lay a distributing main, instead of a special service-line. The prescribed form of requisition for this purpose under clause V (4) of the Schedule is given in Annexure VI to the rules; *vide* Appendix I.

The consumer having once obtained a supply of power, the licensee is bound by the rules under section 37 (2) (e) to see that it is both regular and sufficient. These rules—the breach of which renders the licensee liable to a fine which may extend to three hundred rupees [section 37 (3)]—lay down the amount of allowable variation in the declared pressure and frequency at the consumer's terminals. Should a consumer be dissatisfied with the pressure maintained on his premises, he should have it tested by an Electric Inspector over a considerable period by means of recording voltmeters; and he should also examine the records at the licensee's testing stations or cause them to be examined by an expert (see Schedule, clause XIII). Probably no other method would satisfy a Court that the licensee was in default, but each case must be treated on its merits. The supply may perhaps be maintained quite steadily at the

* The technical aspects of service lines are fully discussed in two notes on sub-head (b) of the first proviso to clause VI (1) of the schedule; page 294.

feeding points and yet be unsatisfactory in houses. If the fault is due to want of "balancing" it is comparatively easily remedied; if to overload there are only the alternatives of reducing the load or increasing the size of the conductors; if to the fact that at different times different feeders may be alternately heavily and lightly loaded, special regulating devices are required. The onus of giving a proper supply is on the licensee, and he must comply, failing which the consumer, as an aggrieved person,* may set the law in motion.

If a consumer finds his bills for current increasing, he should, before assuming his meter to be wrong, see if the increase is due to the actual use of energy; it is common knowledge that servants are largely responsible for disputed bills, as they have an inveterate dislike to switching off lamps not in use.† Another point is that a heavy leakage may exist and be causing the meter to travel. This very occasionally occurs, and can at once be found by inspection, after turning all the lights off; generally, however, a fire occurs at the point of leakage, if there is anything to burn, unless the cause is quickly found and removed. If a leakage is suspected, the house should be properly tested with a view to the removal of the trouble.

Under certain circumstances the licensee may refuse a supply or discontinue the supply. These cases have been discussed in paragraph 16, *supra*, but may conveniently be recapitulated here.

The licensee may *refuse to give a supply* in the following cases :—

Section 22.—Where the person requiring the supply has a separate supply and has not agreed to pay the licensee a minimum annual sum as laid down.

Schedule, clause V (1).—Where the owners or occupiers, or the Local Government or local authority (as the case may be), do not bind themselves in accordance with sub-clauses (a) and (b). The refusal here is to lay mains, which of course are necessary before a supply can be given.

Schedule, clause VI (1), first proviso.—Where the person making the requisition for a supply does not

* Section 50.

† Some forty years ago the author was detailed to enquire into a complaint of high charges by the Hove Electric Lighting Co. By putting recording ampero-meters into the circuits, it was found that, when the householder was away, his staff had the whole building lit up for half the night.

PARA. 33.

bind himself in accordance with sub-clause (a) of this proviso : and where he does not also, if so required, pay the cost of so much of the service line as sub-clause (b) of the proviso specifies.

Schedule, clause VI (1), fourth proviso.—For the limited period laid down herein, if the distributing main is fully loaded or if the supply to other consumers will be seriously affected by the additional load.

Schedule, clause VIII (1).—In the case of supply to public lamps, as in the preceding two entries ; the provisos in question being incorporated in clause VIII by reference.

Rule 23.—Where there is leakage on the installation beyond the allowable limits.

The licensee may cut off the supply already given in the following cases :—

Section 20, as amended in 1922.—Where the consumer refuses to allow access to his premises or the performance of the specified acts or fails to give reasonable facilities for such entry or performance ; but notice must be given—see section 20 (3).

Section 24.—Where the consumer neglects to pay any charge due from him to the licensee ; but the licensee may not cut off the supply if a dispute between him and the consumer has at the time been referred to the Electric Inspector, *unless* the consumer fails on request to deposit the sum in dispute and the subsequent charges for energy as they accrue.

Schedule, clause VI (1), second proviso.—If the owner or occupier has not given sufficient security or fails to deposit any balance due ; or if he adopts any appliance or uses energy so as to interfere with the supply to other persons ; or if his wires, etc., are out of order and liable to affect the supply to other persons ; or if he makes extensions to the installation without notifying the licensee.

Schedule, clause VIII (1).—In the case of supply to public lamps, as in the preceding entry, the proviso in question being incorporated in clause VIII by reference.

Rule 24.—If the consumer does not give all reasonable facilities for inspection and testing or if a leakage exceeding a predetermined amount is discovered. PARA. 33.
—

If the licensee illegally discontinues to supply energy, or fails to supply it in accordance with the law, he is liable to heavy penalties under section 42 (b), but the wording of this section perhaps allows some opening for attempts at evasion by proving "reasonable excuse." The licensee is, however, definitely protected where he is prevented from supplying by "cyclones, floods, storms or other occurrences beyond his control" [Schedule, clauses VI (1) and VIII (1)]. On the usual construction of law such "other occurrences" would have to be of a similar nature, usually covered by the phrases "Act of God," "*force majeure*," "civil war and acts of the King's enemies." The licensee is not to be "held responsible for any interruption or irregularity in the supply of energy which may be occasioned, or required by the Electric Inspector" in connection with the testing of "works."

The general public is not greatly affected by this Act. If The public. damage, detriment or inconvenience is suffered, compensation may be awarded (section 19). A licensee may not interfere with private property without the consent of the owner or occupier, or the special sanction of the Local Government (after consulting the owner or occupier), except in three instances when a Magistrate or Commissioner of Police can overrule private rights—sections 12 (2), proviso, 18 (3) and 20 (2). Various offences are enumerated in sections 39 to 49, rendering those who commit them liable to various terms of imprisonment or fine. See paragraph 27, *supra*.

Should the works be in the hands of the local authority as licensee the general public become interested as ratepayers.

Apart entirely from the larger public undertakings, persons owning electrical installations should ascertain whether they come under section 30 of the Act or not, since there are rules (*vide* Appendices) to be complied with and a penalty for non-compliance. If such a person does not give the notice required by section 30 of the Act he is liable to a heavy fine under section 43.

CHAPTER VII.

RAILWAYS AND TRAMWAYS.

PARA. 34.
—
as to the use
of energy.

34. Electric Traction.—The Indian Electricity Act, 1910, does not contain many provisions relating specifically to electric traction, railways or tramways. If the person responsible for any electrified line were also a licensee, the Act would apply to him to that extent, so far as he also had obligations to the public. But under section 30 (1), proviso, nothing in that section applies to energy used for the public carriage of passengers, animals or goods on, or for the lighting or ventilation of the rolling stock of, any railway or tramway subject to the Indian Railways Act, 1890 (IX of 1890). In these matters the control exercisable under the Indian Railways Act itself is considered to be sufficient, but installations in railway stations or workshops are subject to section 30 and the rules thereunder and are subject to inspection under this as well as under the Factory Act. The Indian Railways Act, 1890, may be extended "to any tramway worked by steam or other mechanical power" by section 146 of that Act; but ordinary urban tramways generally come under the Acts to be referred to presently, and are consequently not "subject to the Indian Railways Act, 1890."

Electric
traction on
railways.

Any railway using electrical energy for the purpose of traction would do so under the Indian Railways Act, 1890. Section 16 of that Act allows the use of "locomotive engines or other motive power." The provisions of that Act also cover all the ground that is necessary in the matter of the carrying out of works and the passing of rules. See, however, the interpolated section 29-A of the Indian Electricity Act, giving railway administrations certain powers as regards trees that interfere with their aerial lines.

Electric
traction on
tramways.

Various licenses for electric traction were granted under the (repealed) Indian Electricity Act, 1903, but it was later on decided that they were unnecessary. If they are still in force it is doubtless open to these licensees to have their superfluous licenses "revoked by consent" under section 4 (3) of the Indian Electricity Act, 1910, should they so desire.

Tramway companies buying power from a licensee may do so as consumers under the Act, probably under special agreement as to rates, or they may take their supply "in bulk" (see paragraph 17). In this case, or if they generate their energy themselves, Part III of the Indian Electricity

Act controls them, as users of energy in streets, and they are subject to the rules issued in this connection which are printed in Appendix I. In either case also they are subject to Part IV of the Act, which is of general application. The clause framed in Great Britain by the Joint Committee (Lord Cross's) of 1893,* to be part of all tramway orders there,—see paragraph 36—is provided for in this Act chiefly by rules which may—

PARA. 34.

for the purpose of electric traction regulate the employment of insulated returns, or of uninsulated metallic returns of low resistance, in order to prevent fusion or injurious electrolytic action of or on metallic pipes, structures or substances, and to minimise, as far as is reasonably practicable, injurious interference with the electric wires, supply-lines and apparatus of parties other than the owners of the electric traction system, or with the currents therein, whether the earth is used as a return or not.

The position of the “trolley bus” or railless electric traction is anomalous and peculiar. Obviously both the system and the vehicles are of the nature of a tramway having a double overhead trolley wire, as sometimes used on ordinary tramways. But the definition of a tramway—see next paragraph—involves the use of “one, two or more rails” but *not* of none at all. That being so, until the Indian Tramways Act, 1886, is further amended, trolley buses come solely under the *Indian Motor Vehicles Act, 1914*, (VIII of 1914) in which the definition runs:—

“Motor vehicle” includes a vehicle, carriage or other means of conveyance propelled or which may be propelled on a road by electrical or mechanical power either entirely or partially.

With that Act we are not here concerned; but so far as the whole of the overhead equipment, feeders, sub-stations, etc., are concerned, the system comes under the Indian Electricity Act, 1910, Parts III and IV, and under the rules applicable to electric traction (Appendix I and Table III in paragraph 26 of the Introduction). In one particular instance a Tramway Order still in force states that “The promoters may employ a system in which no track rails are used and in which a trolley wire is used for the return circuit in lieu of the rails.” Such a clause is clearly *ultra vires* of the Act, but should not remain so when a simple and long-overdue amendment will legalize what is common practice. To class trolley buses with motor cars is altogether wrong and was never intended.

* Joint Select Committee of the Lords and Commons on “Electric Powers (Protective Clauses), 1893.”

PARA. 35.

35. Precis of the Tramway Acts.—Apart from various local Acts, confirming agreements for the construction of tramways in certain cities, tramway undertakings in India are controlled by the Indian Tramways Act, 1886, and the Indian Tramways Act, 1902. The former of these two does not apply in Bengal, however, as there is a pre-existing local Act of 1883 in force in that Province. A short summary of the provisions of these Acts, especially in relation to electric traction, follows, and it must be remembered that when they were originally passed the era of the electric tramway had not dawned.

Act XI of
1886.

The Indian Tramways Act, 1886, extended originally to the whole of British India except Madras, Bombay and Bengal. It could be subsequently extended either to the whole or any part of these provinces. It was so extended to Bombay Presidency (excluding Bombay City and Karachi) in 1887, and to the City of Madras in 1886. It has also been declared in force in Upper Burma, except the Shan States. It has since been modified by the Indian Tramways (Amendment) Act, 1911 (V of 1911).

The term “road” is defined in section 3 (2) to include all streets or places, etc., “along or across which a tramway authorised under this Act is, or is intended to be laid and includes the surface soil and sub-soil of a road and the footway, berms, drains and ditches of a road and any bridge, culvert or causeway forming part of a road.” This is of importance owing to the fact that feeder cables may have to be laid in streets where there is to be no tramway. The local authority, Local Government or person who maintains and repairs the “road” is called the “road authority,” and the term “circle,” in relation to a local authority or road authority, means “the area within the control of that authority.”

Under section 3 (5) as modified by the amending Act, “‘Tramway’ means a tramway having one, two or more rails and includes :—

- (a) any part of a tramway, or any siding, turn-out, connection, line or track belonging to a tramway;
- (b) any electrical equipment of a tramway; and
- (c) any electric supply-line transmitting power from a generating station or sub-station to a tramway or from a generating station to a sub-station from which power is transmitted to a tramway.”

Under the earlier definition of the original Act the term covered the track only, and not any overhead or underground electrical equipment except possibly the bonding of the rails.

PARA. 35.

By section 3 (6) " ' Order ' means an order authorizing the construction of a tramway under this Act, and includes a further order substituted for, or amending, extending or varying that order." Such an order is made in favour of a " promoter," who is also defined, and his undertaking " includes all movable and immovable property of the promoter suitable to and used by him for the purposes of the tramway." This definition would presumably cover the electrical equipment, although it was not originally contemplated.

By section 3 (9), as modified by the amending Act, " ' carriage ' in the case of a tramway on which steam power or other mechanical power or electrical power is used, includes an engine worked on the tramway for the purpose of producing or utilising that power." This definition originally did not cover an electric locomotive which utilizes, but does not produce, power.

Sections 4 to 10 deal with orders authorizing the construction of tramways. An order for a tramway within a single " circle " may be made by the Local Government in favour of the local authority, or any person with the consent of the local authority, but in both cases the consent of any other " road authority " is a condition precedent ; and if any part of the tramway is to traverse land which is neither in a municipal area nor in a cantonment, the previous sanction of the Governor-General in Council is required (section 4), as the Devolution Act, 1920, did not alter this provision. Where the proposed tramway is to cover two or more circles and the local authority or road authority do not consent, or attach conditions to their consent, the Local Government may nevertheless make the necessary order on being satisfied that the construction of the tramway is expedient or that the conditions attached by the authority to its consent ought not to be imposed (section 5).

Under section 6, the draft order is to be published for general criticism, after which it is to be gazetted in the form finally decided on. Section 7 specifies at great length what may be the contents of the order ; the whole lay-out of the undertaking is to be described and the time for commencement and completion specified : the order, *inter alia*, may provide for " the conditions subject to which roads may be opened and broken up for the purposes of the construction

PARA. 35 — or maintenance of the tramway or any part thereof " and for " the motive power to be used on the tramway and the conditions on which steam-power or any other mechanical power or electrical power may be used." It is very doubtful whether electricity can be considered as " mechanical power," and the words " or electrical power " were added by the amending Act, as in the case of the definition of carriage above. In Great Britain the term " mechanical power " in Tramway Bills and Provisional and Light Railway Orders " includes steam, electrical and every other motive power not being animal power " and " engine " includes " motor." As regards the breaking up of roads see also section 29 of the Indian Electricity Act. Under sub-section (3) of section 7 of the Indian Tramways Act, the provisions of the Land Acquisition Act, 1894 (*vide* paragraph 13 of this Introduction) may be put into force in favour of the promoter, even though he is not a company, and there is a corresponding provision in the Indian Electricity Act (section 57).

By section 8 a tramway order may, on the application of the promoter, be revoked, amended, extended or varied by a further order. Two or more local authorities may jointly or separately construct or own the whole or the separate parts (as the case may be) of a tramway (section 9). If the promoter does not substantially commence construction, or suspends construction for insufficient reason, or does not complete and open the tramway for traffic within the time specified, his powers may lapse (section 10).

Sections 11 to 13 deal with the construction and maintenance of tramways in the manner provided in the order and provide for their inspection by " an engineer appointed in this behalf by the Local Government " before they are opened for traffic. Road repairs may, subject to any provisions contained in the order, be settled by agreement.

The following sections deal with traffic (sections 14 to 16), with the grant to third parties of licenses to use the tramway in certain events (sections 17 and 18), the discontinuance of tramways and making good of the streets (sections 19 and 20), and insolvency of the promoter (section 21).

Section 22 relates to the compulsory purchase of tramways by local authorities. The right to purchase, exercisable with the previous sanction of the Local Government, arises within six months after the expiration of 21 years

from the date of the order, and within six months after the expiration of every subsequent seven years, unless some other limit of time, either more or less, is specified in the order; but if the use of the tramway is discontinued or the promoter becomes insolvent, and his powers under the order have for either reason been rescinded (see sections 19 and 21) the local authority with the previous sanction of the Local Government also has an option of purchase at those times. The sale is to be on the terms of purchase specified in the order or "if the terms were not specified in the order, then upon the terms of paying the then value of the undertaking or of the part thereof, exclusive of any allowance for past or future profits of the undertaking or any compensation for compulsory sale or other consideration whatsoever." When purchase has been effected, it is provided by sub-section (2) that the rights, powers, etc., of the promoter shall be transferred to and vest in the authority to whom the undertaking has been sold. The fourth sub-section allows two or more local authorities jointly to purchase an undertaking or so much thereof as is within their circles. These purchase terms closely follow those of the law* in Great Britain, and the following extracts from *The Electrician Electrical Trades Directory and Handbook*, 1922, page 372, are of interest in this connection:—

The valuation is made on the basis of assessing what it would cost to lay down the tramways with an allowance for depreciation, but past profits or rental value must not be taken into account. For this purpose "Tramway" means a line of rails, and not the power of laying rails or the company's undertaking or business (*London County Council v. London Street Tramways Company*, 1894, A.C. 489).

An agreement to sell a light railway at a price to be settled by arbitration was construed by the Court of Appeal to mean sale as a going concern, including rolling stock and equipment (*Dudley, Stourbridge and District Electric Traction Co. v. Dudley Corporation*, *The Electrician*, Feb. 8, 1907, p. 657). A Local Authority may (subject to the leave of the Board of Trade) purchase so much of any one line as is in its district at the expiration of 21 years from the time when the promoters were authorised to construct it, although it may form part of an undertaking authorised by different Acts of Parliament (*North Metropolitan Tramways Company v. London County Council*, 1895, W.N. 91).

Where works used for the line sold are also partly used for lines not sold, the arbitrator may award compensation in respect of them and require the purchasers to take the whole of such works. (*Manchester Carriage and Tramways Company v. Manchester Corporation*, *The Electrician*, August 1, 1902, page 603, and May 8, 1903, page 132, as to compromise of the appeal against this decision.) In an arbitration by the same company and Swinton and Pendlebury U.D. Council, it was held by the House of Lords that the Council was

* The Tramways Act, 1870 (33 & 34 Vict., c. 78).

PARA. 35.

bound to purchase a dépôt outside their district which the arbitrator had found to be suitable for the undertaking within it (*The Electrician*, December 2 and 9, 1904, p. 402). Whether a factory for the manufacture and repair of cars and accessories must be purchased depends upon the fact, to be decided by the arbitrator, whether such factory is suitable to the undertaking within the district (*Leyton Urban Council vs. North Metropolitan Tramways Company*, *The Electrician*, July 13, 1906). For the interpretation by the House of Lords of a clause in a Light Railway Order as to terms of purchase see *Dudley Corporation v. Dudley, Stourbridge and District Electric Traction Company*, *The Electrician*, July 26, 1907, p. 605.

The provisions of the compulsory-purchase clause are sometimes varied by special Act, so as to give better terms to the undertakers. For instance, under the Stroud and District Tramways Act, 1903, the term is extended to 35 years, and the price is to be fair market value as a going concern; the company is also to retain running powers over the part sold. See also Lanarkshire and Hove and Worthing Acts, 1903.

In the Western Valley (Mon.) Railless Electric Traction Act, 1913, power is given to each local authority to purchase, after 25 years, the portion of the undertaking within its district at the fair market price as a going concern. In some other railless traction Acts the period is 21 years upon tramway terms.

A specific case of the purchase of a tramway in Great Britain is discussed in paragraph 10, *supra*, while the question of the purchase of a generating station serving a combined undertaking for electric supply and traction is also discussed in paragraphs 9 and 10.

When a local authority has completed or acquired a tramway it may, by a lease to be approved by the Local Government, let to any person the right of user and of demanding and taking the authorized tolls (section 23).

Section 24 confers rule-making powers on the Local Government and, to a limited extent, on a local authority, promoter or lessee. The former rules may, *inter alia*, regulate "the use of steam power or any other mechanical power or electrical power on a tramway," prescribe the submission of accounts in a specified form, and specify the accidents of which report is to be made to the Local Government or as that Government directs. The sections following (25 and 26) deal with the powers of local authorities, etc., to impose penalties for breach of rules and procedure with regard to the making and publication of rules.

Sections 27 to 41 prescribe penalties for breach of the Act, settlement of difference, recovery of tolls, and savings, after which follow various supplemental provisions. The amending Act (V of 1911) adds the words "electrical generating stations or sub-stations" after "engine and sheds" in clause 44, which exempts parts of the equipment from municipal taxation.

The above précis makes no pretence of being exhaustive but shows the general lines on which the Act is drawn up. The amending Act of 1911 not only provides for electrical equipment and working but also for monorail tramways, which have on various occasions been proposed in India ; but not, at present, for " railless traction," see page 169.

PARA. 35.

The Indian Tramways Act, 1902, consists of two sections Act IV of 1902. only and gives power to the Governor-General in Council to direct that the provisions of the Indian Railway Companies Act (X of 1895) shall apply " to any company formed for the construction of a tramway under the Bengal Tramways Act, 1883, or the Indian Tramways Act, 1886." The object is to permit such company to pay interest out of capital during construction. Similar provisions, applicable to other companies generally, will be found in the Indian Companies (Amendment) Act, 1910.

The Bengal Tramways Act, 1883, does not differ very Bengal Act III of 1883 greatly from the General Act of 1886, except that it does not deal with the matter in so much detail. The General Act is in fact based upon this earlier law, with such additions and amendments as further experience suggested. In Part II, dealing with the construction of tramways, section 15 allows the promoters to break up the roads " upon which the construction and maintenance of such tramway has been authorized by the order of the Local Government in that behalf and therein lay sleepers and rails and repair, renew, alter or remove the same." The power is very circumscribed, and though the promoters are further authorized for the purposes aforesaid to " do in and on such roads all other acts which shall from time to time be necessary for constructing and maintaining their tramways " it is very doubtful if this covers the overhead construction. Feeders, in roads where there is no tramway, are certainly not covered. Section 22 allows the cars to be " worked with such power, animal, mechanical or otherwise, as may be specified in the order." This would cover electrical working. The purchase clause (section 41) gives the local authority the option of purchasing the undertaking upon the expiration of 21 years from the date of the order, and every seven years thereafter, " and the value to be placed upon the tramway shall be calculated in a manner to be settled in the agreement entered into between the promoters and the said local authority and set forth in the order of the Local Government ; provided that the promoters and the local authority may,

PARA. 35. with the consent of the Local Government, provide in the said agreement for the sale and purchase of the tramway on the expiration of any shorter periods than those hereinbefore specified."

Other local Acts. It is sufficient to give a list of the special local Acts confirming specific agreements:—

The Calcutta Tramways (Electric Traction) Act (Ben. IV of 1900).

The Bombay Tramways Act (Bomb. I of 1874).

The Karachi Tramways Act (Bomb. II of 1883).

The Rangoon Tramways Act (XXII of 1883).

PARA. 36. 36. Earth Returns and Earthed Returns.—The question of connection of circuits with earth is dealt with directly or by implication in several places in this Act, and it will be convenient to consider the question here as a whole.

Summary of provisions in Act. Section 17 provides, *inter alia*, that a licensee, when giving notice to the telegraph authority that he is about to lay down or place electric supply-lines or works, shall specify the extent to, and the manner in, which (if at all) earth returns (if permissible under section 34) are to be used.

Section 32, which is also for the protection of the telegraphs, applies alike to licensees, tramway promoters and other persons generating, transmitting, supplying or using energy. All such persons must take all reasonable precautions so as not injuriously to affect the working of any wire or line used for the purpose of telegraphic, telephonic or electric signalling communication. This may be due either to "induction" from one circuit carrying a current to another, through the air; or to permissible connection with "earth"; or, again, to accidental connection with earth due to the breakdown of the insulation at some point or points.

Section 34, as amended by the Devolution Act, 1920 (XXXVIII of 1920), is likewise of general application, and forbids connection of circuits with earth except so far as may be prescribed by rule or specially sanctioned by the Local Government.

Section 37, which gives power to Government to make rules, provides by sub-section (2) (g) that such rules may—

(g) for the purposes of electric traction regulate the employment of insulated returns, or of uninsulated metallic returns of low resistance, in order to prevent fusion or injurious electrolytic action of or on metallic pipes,

structures or substances, and to minimise, as far as is reasonably practicable, injurious interference with the electric wires, supply-lines and apparatus of parties other than the owners of the electric traction system, or with the currents therein, whether the earth is used as a return or not ;

PARA. 36.
—

and clause (h) of the same section also provides that the rules may—

- (h) provide for preventing telegraph-lines and magnetic observatories or laboratories from being injuriously affected by the generation, transmission, supply or use of energy ;

the notes on these various sections and the corresponding rules should be referred to.

Section 34, the principal one of those quoted above, was considerably strengthened in 1910. The sanctioning of the free use of an "earth return" is of course not contemplated, nor even the use of earthed return circuits on general supply undertakings, except in so far as concerns electric traction.

General use of earth returns not contemplated.

There are certain cases where the rules prescribe or permit connection with earth on ordinary electric supply systems, *e.g.*, the neutral conductor of a three-wire system, the external conductor of a concentric cable, and so forth. In these cases, however, the connection is at one point only, namely at the generating station or sub-station as the case may be, and it is only in the case of accident that the earth temporarily becomes a part of the conducting system. This is quite a different matter to the compulsory connection to earth of metal work, especially the supports and stays, etc., of aerial lines, under the rules, such metal work not being intended as part of a circuit. This earthing is for the protection of persons from shock and buildings from fire ; for if such metal work should accidentally become connected to a live circuit, that circuit will *automatically* be disconnected by the melting of the fuses or operation of circuit-breakers.

Connection with earth prescribed by rules.

There may be special cases where, temporarily at least, an earthed return circuit is unobjectionable otherwise than for electric traction. For example, some parts of an area of supply in an Indian town may contain only one or two applicants for supply, so distant from others that it would not pay the licensee to run a double metallic circuit for several miles to supply them. An instance such as this has actually arisen within the Author's experience, where a tramway track offered a convenient return circuit, and such

Special cases.

PARA. 36. special cases can be sanctioned by the last words of section 34 (7); each case would have to be dealt with on its merits, the interests of the telegraphs and their licensees and of the owners of pipes being safeguarded.

Tramways. As regards electric traction the use of "earthed returns," i.e., the use of the rails, which are in electrical connection with earth, is allowable for the reasons which were put before Lord Cross's Joint Select Committee on "Electric Powers (Protective Clauses)" of 1893. In India particularly there is practically no scope for conduit, surface-contact or double-trolley systems, so that the single trolley system with rail return becomes obligatory, and the rules fully provide for that system. The evidence before that Committee, which went exhaustively into the subject, was entirely against the use of the earthed return for any other purpose than traction, because in other cases it is not a necessity; and necessity alone rendered it permissible in the one instance cited. This conclusion was endorsed emphatically by the (British) Joint Select Committee of 1898 on "Electrical Energy (Generating Stations and Supply)."

A tramway using its energy to light its cars and car sheds would be using that energy for the purpose of electric traction and would come within the scope of the rules applicable to such undertakings, so that the rail could be used for the return circuit. On the other hand, if buildings not essentially a part of the traction undertaking were to be lit, or motors in them driven, the prohibition would certainly apply in the absence of special sanction. Here again the question whether such sanction would be given would depend on the particular circumstances; but a general sanction to such procedure would almost certainly be refused. In considering the conditions to be imposed in any particular case regard would doubtless be had to the public safety and also "to the expense involved and to the effect thereof upon the commercial prospects of the undertaking." The words quoted will not, it is true, be found in this Act, but they are in clause 4 of the special provisions as to the use of electric power, founded on the recommendations of Lord Cross's Committee, which are inserted by the Ministry of Transport in all British tramway orders. These British provisions are as follows, the footnotes being quoted from *The Electrician Electrical Trades Directory and Handbook*:—

Special Provisions as to use of Electric Power founded on the Recommendation of Lord Cross's Committee, 1893. PARA. 36. —

The following provisions shall apply to the use of electrical power, unless Provisions such power is entirely contained in and carried along with the carriages :— in British Tramway orders.

1. The Company shall employ either insulated returns or uninsulated metallic returns of low resistance.

2. The Company shall take all reasonable precautions in constructing, placing, and maintaining their electric lines and circuits and other works of all descriptions, and also in working their undertaking so as not injuriously to affect by fusion or electrolytic action any gas or water pipes,* or other metallic pipes, structures or substances, or to interfere with the working of any wire, line or apparatus from time to time, used for the purpose of transmitting electrical power, or of telegraphic, telephonic or electric signalling communication, or the currents in such wire, line or apparatus.

3. The electrical power shall be used only in accordance with the Ministry of Transport regulations, and in such regulations provision shall be made for preventing fusion or injurious electrolytic action of or on gas or water-pipes or other metallic pipes, structures, or substances, and for minimising, as far as is

* Water and gas companies have frequently endeavoured to get special clauses inserted making the tramway company liable for injury to their pipes by electrolysis. The decisions are most conflicting, and were summarised by counsel when applying for *locus standi* to oppose the London United Tramways Bill, 1901 (see *The Electrician*, June 14, 1901, p. 301). After the exhaustive investigation in that case, an agreed clause was inserted to the effect that the powers of the Ministry of Transport shall be deemed to include power to make regulations requiring the company to use such reasonable precautions, including insulated returns, as the Ministry may think fit from time to time (see *The Electrician*, August 2, 1901, p. 568). This does not appear to be any substantial addition to the standard clause, particularly as the view of the Ministry (formerly the Board of Trade) appears to be that the standard clause is sufficient for all purposes. This view seems now to prevail rather than the policy of the Sheffield Corporation Act, 1901, in which the opposing gas company succeeded in getting the following clause inserted : " Provided that, notwithstanding anything contained in the said Acts or this Act, if it be proved that any injury or damage to any mains, pipes or apparatus of the Sheffield United Gas-light Company shall have resulted from fusion or electrolytic action caused by any currents generated or used for the purpose of electric traction on any of the tramways for the time being belonging to the Corporation, nothing in the said Acts or this Act shall relieve the Corporation from any liability to make compensation for such injury or damage which would have existed but for the passing of the said Acts and this Act." In 1902 a clause somewhat similar to Sheffield was obtained in some cases, usually by agreement between the parties. A special clause was, however, inserted by Lords' Committees in the Brighton Corporation and Beckenham Urban District Tramway Bills, 1903, but in the latter case it was struck out by the House on third reading. The House also refused a motion by Lord Welby to insert such a clause in the Corporation of London Blackfriars and other Bridges Bill (*The Electrician*, July 20, 1906, p. 551). The Light Railways Commissioners have always refused any special clause. They struck out one inserted by agreement in the Swansea and District Order, 1902, but the Board of Trade afterwards restored it. The Ministry of Transport has since refused to repeat this course. The practice in 1904 has confirmed the policy stated above. Where a special clause was inserted by agreement in the Bill confirming a Provisional Order of the Board of Trade, who had refused to allow the clause, the Board declined to proceed with the Bill and the order was therefore lost [Clyde Valley Power Co.'s Order, *Electrician*, July 22, 1904, p. 1906]. A note to the model clause as now published is as follows : " In Bills containing this clause, provisions rendering the Company liable in any event for injurious interference with pipes or wires of other parties are not allowed." By agreement with the promoters of the Torquay Tramways Bill, a special clause was allowed by Committees of both Houses, but this was struck out by the chairman of Committees in the House of Lords before the third reading, and the House refused to restore it. Protective clauses against all kinds of injury, including electrolysis, have been allowed (Shropshire, Worcestershire and Staffordshire Elec. Power Act, 1906) (*The Electrician*, July 29, 1904, p. 608).

PARA. 36.

reasonably practicable, injurious interference with the electric wires, lines and apparatus of other parties, and the currents * therein, whether such lines do or do not use the earth as a return.

4. The Company shall be deemed to take all reasonable precautions against interference with the working of any wire, line or apparatus if and so long as they adopt and employ, at the option of the Company, either such insulated returns or such uninsulated metallic returns of low resistance and such other means of preventing injurious interference with the electric wires, lines and apparatus of other parties, and the currents therein, as may be prescribed by the Ministry of Transport regulations, and in prescribing such means the Ministry shall have regard to the expense involved and to the effect thereof upon the commercial prospects of the undertaking.

5. At the expiration of two years from the passing of this Act the provisions of this section shall not operate to give any right of action in respect of injurious interference with any electric wire, line or apparatus or the currents therein, unless in the construction, erection, maintaining and working of such wire, line and apparatus all reasonable precautions, including the use of an insulated return, have been taken to prevent injurious interference therewith and with the currents therein by or from other electric currents.

6. If any difference arises between the Company and any other party with respect to anything hereinbefore in this section contained, such difference shall, unless the parties otherwise agree, be determined by the Ministry of Transport, or, at the option of the Ministry, by an arbitrator to be appointed by the Ministry, and the costs of such determination shall be in the discretion of the Ministry or of the arbitrator as the case may be.

7. When any Department of His Majesty's Government represents to the Ministry of Transport that the use of electrical power under this Act injuriously affects, or is likely to injuriously affect, any instruments or apparatus, whether electrical or not, used in any *observatory or laboratory* belonging to or under the control of that Department, the Ministry of Transport, after such inspection or inquiry as they may think proper, may, by their regulations, require the Company to use such reasonable and proper precautions—including insulated returns—as the Ministry of Transport may deem necessary for the prevention of such injurious affection. For the purposes of this sub-section, any inspector of the Ministry of Transport may, during his inspection of the Company's works and apparatus, be accompanied by any person or persons appointed in that behalf by the Government Department concerned, and the Company shall give all due facilities for the inspection. Provided always that in the case of any observatory or laboratory established after the passing of this Act, or of any instruments or apparatus hereafter used in any existing observatory or laboratory which may be of greater delicacy than those used therein at the passing of this Act, the Ministry of Transport shall consider to what extent, if any, it is expedient in the interests of the public that the powers of this sub-section should be exercised, regard being had to the site of the observatory or laboratory, or purposes of the instruments or apparatus, as the case may be.

* The question whether submarine cables are within the contemplation of this clause was left undecided by a Commons Committee, who refused special protective clauses to the Commercial Cable Company in the Weston-super-Mare Tramways Bill (see *The Electrician*, July 6, 1900, p. 414). "The owners of sensitive apparatus, such as a telegraph cable, cannot, in the absence of special legislation, create for themselves by reason of the peculiarity of their apparatus, a higher right to limit the operations of their neighbours than belongs to the ordinary owners of land, who do not trade with telegraph cables." (Decision of the Privy Council in *Eastern and South African Telegraph Company v. Cape Town Tramways*

8. The expression "Company" in this section shall include lessees, licensees and any person owning, working or running carriages over any tramway of the Company. PARA. 36.
—

(A clause for the protection of post office telegraph lines follows.)

In the early days of continuous current electric traction, particularly in the United States, great damage was caused to pipes and buried metallic structures of all sorts by electrolytic action, caused by stray currents from neighbouring tramways, using a rail return without "bonding," i.e., connecting the rails across the junctions between them by copper strips large enough to make the whole of the rails a continuous conductor. Lord Cross's Committee, which has several times been referred to, investigated this subject and suggested remedies to reduce the danger. The Indian Electricity Act and the rules under it deal with the matter very much on the same lines as have been adopted by the Ministry of Transport. So long as proper construction and maintenance is arranged for, a tramway should not cause damage to property from electrolysis.

There is no clause in the Indian Electricity Act or the Indian Tramways Act to the effect that nothing therein shall exempt a licensee from indictment or other proceedings for nuisance, such as is found in the British Electric Lighting Clauses Act, 1899, section 81, though such a clause could be inserted in any tramway order. The following note on the question of "nuisance" has a bearing on the matter under discussion, and is quoted from "The Law Relating to Electric Lighting, Traction and Power," by Shires Will, fifth edition (John C. Dalton), page 405:—

The question of the liability of tramway promoters under such an Order for damage done by electric currents used in working the tramways arose in the case of *National Telephone Co. v. Baker* before Kekewich, J. (1893, 57 J.P. 373). In that case it was held, that a person who had created an electric current for his own purposes, and had discharged it into the earth beyond his control, is responsible for the damage done by that current to a neighbouring proprietor, notwithstanding that such discharge is not noxious in itself, and that the neighbouring proprietor is using his own property for an extraordinary purpose in respect of which alone the damage arises. When, however, the legislature has authorised the promoters of a tramway, with the consent of the Board of Trade, to use a variety of methods of working the tramway, and the Board of Trade have duly given their consent to the use of one of the authorised methods, the promoters have statutory power to use that particular method, the Board being, for this purpose, the delegates of the legislature. A person carrying on a business in the exercise of a statutory power is not necessarily bound to adopt the latest inventions or improvements in respect of such business; if he employs

PARA. 36.

a system which is as good as any other in practical use, and which has been shown by experience to be sufficient to meet the ordinary requirements of the public, he is making a reasonable use of his statutory power, and is not liable for any damage caused thereby to a neighbouring proprietor.

The whole matter turned on the fact that working was under statutory power. Otherwise, to quote from an older commentary on the same case:—

If one creates on his own land an electric current for his own purposes, and discharges it into the earth beyond his control, he is, on the principle of *Fletcher v. Rylands* (1868), L.R. 3, H.L. 330, as responsible for damage caused by that current as he would have been if, instead, he had discharged a stream of water. Nevertheless where the act is done in pursuance of statutory authority it is protected to the same extent as other nuisances under statutory authority, where there is no clause to the effect that nothing in the Act shall exempt the undertakers from indictment or other proceedings for nuisance.

The Cape
Town Case.

In the notes following the text of section 32 of the Indian Electricity Act, 1910, what is known as the “Cape Town Case” is referred to. This case is of such importance as to warrant a fuller account of it and the following is an extract from “The Law Relating to Electric Lighting, Traction and Power,” by Shiress Will, third edition, pp. 370-373:—

In April, 1902, the Judicial Committee of the Privy Council decided a case which is of much interest in connection with the question of leakage and electrolysis. The Cape Town Tramways Companies, Limited, were incorporated by certain Colonial Acts, and had worked certain tramways since 1896 by electricity as the motive power. They erected a generating station and conveyed the current thence by means of overhead insulated wires, running parallel to the tram lines in the usual way, the current returning to the generating station partly through the tram rails and partly through the earth, the rails not being insulated from the earth. The Eastern and South African Telegraph Company own a cable which, after passing through the waters of Table Bay, reaches a cable hut on the shore at Cape Town, whence communication is established by land wires with a central office. From the laying of this cable in 1889 to 1896, when the tramway system was opened, no difficulty was experienced in its working. As soon as this system came into force, disturbances to the signals received from the cable occurred, and were of so serious a character as to render the working of the cable impossible whilst the tramcars were running.

* * * * *

The way in which the cable was affected is thus stated by Lord Robertson, who delivered the judgment of the Privy Council:—

“At some point, then, in Table Bay this electricity, having escaped and being at large, was attracted by the appellants’ cable, entered the sheathing of the cable, and by the sheathing, as a conductor, found its way back to the tramway central station, whence it had started, and thus completed its circuit. While travelling along the sheathing of the appellants’ cable, the current varied very frequently and at irregular intervals, in accordance with the starting and stopping of the tramway cars. It was this irregularity and jerking which did the mischief; and but for this the current might have used the sheathing as a conductor without any injury. As

things were, the current in the sheathing induced similar irregular currents in the conducting wire of the cable, with the result that the signals were interfered with, and, as recorded, were confused and unreadable. None of the apparatus was damaged; but the working of the apparatus was so interfered with as to take away its utility for the time of the interruption. In order to complete the description of the nature of the injury, it is necessary to add that the difficulty has now been completely got over by laying what is called a twin-core cable for several miles out, the two wires rectifying one another's action. Now that this has been done, the electricity from the tramways can pass along the sheathing without any harm being done. The cost of this remedial measure forms a large part of the claim in the suit, much of the rest representing experimental and tentative measures. Into this, however, it is unnecessary further to enter, as the quantum of damage is not raised in this appeal, but only the question of liability."

PARA. 36.

* * * * *

The judgment of the Supreme Court of Cape Colony was in favour of the Tramway Company.

Before the Judicial Committee of the Privy Council the appellants maintained, and the respondents denied, that what happened constituted a "leak" within the meaning of the Statutes, and of the condition attached to the use by the company of the "lines of tramway as part of its system of conductors for the return of electrical current." In regard to this question, the judgment of the Privy Council, as expressed by Lord Robertson, was in these terms:—"The first question, then, is, was it a leak, either in the sense of the statutory undertaking or of this condition, that sent out this electricity which reached the cable? For, if so, the stipulated liability has been incurred. Their Lordships are unable to think that it was. The language of both the statutory undertaking and of the condition seems to point to some defect in apparatus not contemplated as a condition of the working of the system. But the departure of the electricity from the rails arose from no defect, but from the necessary condition of things, if the tramcars were to run and the rails to be used as a return. The evidence shows clearly that, if uninsulated (as was the case here), the rails of necessity conduct home to the central station only some of the electricity, the rest leaving the rails and going afield. Giving to the word 'leak' whatever expansion may be appropriate to its extension to electricity, their lordships do not consider the event which has occurred to fall within the undertaking and condition. The escape was, on the contrary, a natural incident of the operations legalised under the Statutes." The judgment appealed from was therefore affirmed. *Eastern and South African Telegraph Company v. Cape Town Tramways Companies* (1902), A.C. 381 (*The Electrician*, April 25, 1902, p. 29).

This case does not appear in later editions of Will's "Electric Lighting," because it depended upon the construction of the particular condition which was placed on the working of the tramways; namely, that the Company specially undertook that, in the event of any *electric leak* taking place and damage being thereby caused, they should make compensation. The whole question, therefore, was whether the interference caused was a *leak* in the terms of the condition imposed, and the judgment rather rested on the construction of that condition. The present editor,

PARA. 36. Mr. Dalton, through whose courtesy the above is added, considers the case to confuse the issue somewhat, as it is not quite *ad rem* to the very definite principles laid down in *Fletcher v. Rylands* and *National Telephone Co. v. Baker*.

CHAPTER VIII.

REPEALS AND SAVINGS.

PARA. 37.
Persons
licensed
under Act
III of 1903.

37. Powers existing prior to the passing of this Act.— By section 58, the Indian Electricity Act, 1903, is repealed “provided that every application for a license made and every license granted under the said Act shall be deemed to have been made and granted under this Act.” As to the legal effect of repealing an Act and re-enacting it with modifications, as in the present instance, see paragraph 29, where the provisions of the General Clauses Act (sections 6, 8 and 24) dealing with this matter are discussed. The position stated above is modified by sub-section 58 (2), which enacts that—

Nothing in this Act shall be deemed to affect the terms of any license which was granted, or of any agreement which was made, by or with the sanction of the Government for the supply or use of electricity before the commencement of this Act.

Persons holding licenses under the earlier Act of 1903 are subject to all the provisions in the Indian Electricity Act, 1910, as amended subsequently, and may use the facilities and obtain the relief offered by such Act. For example, they may acquire land under the Land Acquisition Act, 1894, as amended by section 57. They can apply to have amendments made in their licenses [section 4 (3) (b)], *e.g.*, to enable them to lay mains across an area interrupting the area of supply [section 3 (7) (b)]. They can obtain power to supply consumers outside the area of supply under section 27. The licensee is relieved from the fear of section 39 (3) (b) of the Act of 1903, but he is subject to the provisions of section 42 (b) which has taken its place. He obtains the benefit of, and is subject to the provisions of, the amendments introduced by the Indian Electricity (Amendment) Act, 1922; except perhaps those amendments contained in the Schedule, for the reasons discussed below. In such a

matter as compulsory purchase, however, the benefit of the revised provisions is limited to licensees who obtain their licenses under the Act of 1910. For the provisions for compulsory purchase are essentially provisions attaching to each individual license, and capable of variation only when that license is granted. The repeal of the Act of 1903 does not affect the terms of any license granted under it; and as the Schedule to that Act was "deemed to be incorporated" in such licenses it is presumed that that Schedule also remains in force as regards those particular licenses. The point has not been authoritatively decided. It seems clear, however, that where an addition to the Schedule has been made, not in conflict with any clause of the 1903 Schedule, it will be operative as regards a licensee under the old Act. Thus, in clause VI of the present Schedule, sub-clause (3) provides for arbitration over various matters, whereas the 1903 Schedule was silent on the point. Arbitration will then be the correct way of settling these matters. It has been ruled so in Madras, but not by a Court.

It is a question, however, how far a licensee, under the Act of 1903, can avail himself of any clause of the Schedule to the new Act, should he find this to be more advantageous than the corresponding clause of the Schedule to the former enactment, i.e., the Schedule which is deemed to be incorporated in, and therefore to be a term of, his license. It is interesting to note that the "Repeals and Savings" clause of the Indian Electricity *Bill* of 1910 differs substantially from that of the Act owing to the opposition of pre-existing licensees. Whether that opposition was in their own interests appears to the Author very doubtful. In any case, there are now very few licenses in force that were granted under the Indian Electricity Act, 1903.

The status of persons having licenses or sanctioned agreements for the supply or use of energy *before* the commencement of the Act of 1903 is unaffected by this Act. There are very few of these; probably none.

Persons
licensed
before com-
mencement
of Act III of
1903.

First as to licensees, the Calcutta Electric Lighting Act, 1895, is the only other Act under which licenses were granted, except the Special Act for Howrah Bridge. Both these enactments were repealed by the Act of 1903. The Calcutta Electric Supply Corporation obtained several licenses under the Calcutta Act for various areas of supply in Calcutta itself, but these, together with the Howrah Bridge license, were revoked by consent in favour of a consolidated license

PARA. 37. under the Act of 1903. The Calcutta Electric Lighting Act was, however, extended to several other Municipalities which may still hold licenses granted under it. Nothing in the re-enacted Act affects the terms of these licenses in any way. A rather extraordinary state of affairs exists in point of fact with regard to them, for, while on the one hand the rights of the licensees were expressly saved in the Act of 1903, on the other hand there is a clause *in the various licenses themselves* to the effect that "Nothing in this license shall exempt the undertakers or their undertaking from the provisions of, or deprive the undertakers of the benefits of, any general Act relating to electricity which may be passed by the Bengal or Imperial Legislative Council." A reference to the last words of the proviso to section 42 (1) of the Act of 1903 will show that the repeal of the Calcutta Act did not extend to the rules made under it, which remained in force in theory at least, though no question has ever arisen on the point. Reference should, however, be made to the last of the rules in Appendix I, dealing with the application of the new rules.

Persons
having agree-
ment prior to
1903.

The positions of persons having agreements, made by or with the sanction of the Government, prior to the commencement of the Act of 1903 is equally complicated. They were specially protected by section 42 (2) of that Act and this protection presumably continues in virtue of section 6 of the General Clauses Act, 1897. There are probably very few such undertakings of date prior to the passing of the original Electricity Act of 1887; but the rules under that Act applied generally without reference to the date when the undertaking came into existence, so that it is likely that most persons would prefer to be under the latest revised rules rather than under the old Board of Trade code originally adopted. Section 24 of the General Clauses Act, 1897 (paragraph 29, *supra*), has a bearing on this question; but what its precise effect would be in any particular case is a matter for the Courts to decide.

Act No. IX of 1910.

The Indian Electricity Act, 1910,

incorporating the changes made by :—

The Repealing and Amending Act, 1914 (X of 1914).

The Devolution Act, 1920 (XXXVIII of 1920).

The Indian Electricity (Amendment) Act, 1922 (I of 1922).

The Indian Electricity (Amendment) Act, 1923 (XL of 1923).

The Repealing and Amending Act, 1925 (XXXVII of 1925).

CONTENTS.

PART I.

PRELIMINARY

SECTIONS	PAGE
1. Short title, extent and commencement	190
2. Definitions	191

PART II.

SUPPLY OF ENERGY.

Licenses.

3. Grant of licenses	195
4. Revocation or amendment of licenses	199
5. Provisions where license of licensee, not being a local authority, is re- voked	201
6. Provisions where license of local authority is revoked	205
7. Purchase of undertaking	206
8. Provisions where no purchase and license revoked with consent of licensee	209
9. Licensee not to purchase, or associate himself with, other licensed under- takings or transfer his undertaking	209
10. General power for Government to vary terms of purchase	211
11. Annual accounts of licensee	212

Works.

12. Provisions as to the opening and breaking up of streets, railways and tramways	213
13. Notice of new works	216
14. Alteration of pipes or wires	219
15. Laying of electric supply-lines or other works near sewers, pipes or other electric supply-lines or works	222
16. Streets, railways, tramways, sewers, drains or tunnels broken up to be reinstated without delay	224

17. Notice to telegraph-authority	225
18. Aerial lines	226
19. Compensation for damage	228

Supply.

19A. Point where supply is delivered	229
20. Power for licensee to enter premises and to remove fittings or other apparatus of licensee	230
21. Restrictions on licensee's controlling or interfering with use of energy	231
22. Obligation on licensee to supply energy	233
23. Charges for energy	234
24. Discontinuance of supply to consumer neglecting to pay charge	236
25. Exemption of electric supply-lines or other apparatus from attachment in certain cases	238
26. Meters	238
27. Supply of energy outside area of supply	243

PART III.

SUPPLY, TRANSMISSION AND USE OF ENERGY BY NON-LICENSEES.

28. Sanction required by non-licensees in certain cases	246
29. Power for non-licensees to break up streets	247
29A. Application of section 18 to aerial lines maintained by railways	249
30. Control of transmission and use of energy	249

PART IV.

GENERAL.

Protective Clauses.

31. Protection of railways and canals, docks, wharves and piers	253
32. Protection of telegraphic, telephonic and electric-signalling lines	254
33. Notice of accidents and inquiries	256
34. Prohibition of connection with earth, and power for Government to interfere in certain cases of default	257

Administration and Rules.

35. Advisory Boards	259
36. Appointment of Electric Inspectors	260
37. Power for Government to make rules	261
38. Further provisions respecting rules	264

Criminal Offences and Procedure.

39. Theft of energy	265
40. Penalty for maliciously wasting energy or injuring works	270
41. Penalty for unauthorized supply of energy by non-licensees	271
42. Penalty for illegal or defective supply or for non-compliance with order	271
43. Penalty for illegal transmission or use of energy	273
44. Penalty for interference with meters or licensee's works and for improper use of energy	273
45. Penalty for extinguishing public lamps	275
46. Penalty for negligently wasting energy or injuring works	276

SECTIONS	PAGE
47. Penalty for offences not otherwise provided for	276
48. Penalties not to affect other liabilities	276
49. Penalties where works belong to Government	277
50. Institution of prosecutions	277

Supplementary.

51. Exercise in certain cases of powers of telegraph-authority	277
52. Arbitration	280
53. Service of notices, orders or documents	281
54. Recovery of sums recoverable under certain provisions of Act	281
55. Delegation of certain functions of Local Government to Electric Inspectors	282
56. Protection for acts done in good faith	282
57. Amendment of the Land Acquisition Act, 1894	283
58. Repeals and Savings	283

THE SCHEDULE.

PROVISIONS TO BE DEEMED TO BE INCORPORATED WITH, AND TO FORM PART
OF, EVERY LICENSE GRANTED UNDER PART II SO FAR AS NOT
ADDED TO, VARIED OR EXCEPTED BY THE LICENSE.

Security and accounts.

CLAUSE

I. Security for execution of works of licensee not being local authority	285
II. Audit of accounts of licensee not being local authority	286
III. Separate accounts	287

Compulsory works and supply.

IV. Execution of work after commencement of license	287
V. Provisions as to laying down of further distributing mains	288
VI. Requisition for supply to owners or occupiers	290
VII. Further provisions as to laying service-lines	297
VIII. Supply for public lamps	297

Supply by bulk-licensees.

IX. Special provisions applying to supply by bulk-licensees	298
---	-----

Charges.

X. Methods of charging	301
XI. Maximum charges	302
XI-A. Minimum charges	303
XII. Charges for supply for public lamps	303

Testing and Inspection.

XIII. Licensee to establish testing stations and keep instruments for testing	304
XIV. Facilities for testing	304
XV. Testing of works	305

Plans.

XVI. Plan of area of supply to be made and kept open for inspection	305
---	-----

Additional notice of certain works.

XVII. Notice to Electric Inspector	306
--	-----

The Indian Electricity Act, 1910,

ACT IX OF 1910.

incorporating the changes made by :—

The Repealing and Amending Act, 1914 (X of 1914).

The Devolution Act, 1920 (XXXVIII of 1920).

The Indian Electricity (Amendment) Act, 1922 (I of 1922).

The Indian Electricity (Amendment) Act, 1923 (XI of 1923).

The Repealing and Amending Act, 1925 (XXXVII of 1925).

With Notes on Clauses.

References to the corresponding sections of the Indian Electricity Act, 1903, are given under each section in the text following :—

An Act to amend the law relating to the Supply and Use of Electrical Energy.

WHEREAS it is expedient to amend the law relating to the supply and use of electrical energy ; It is hereby enacted as follows :—

PART I.

PART I.

PRELIMINARY.

Sec. 1.

1. (1) This Act may be called the Indian Electricity Act, 1910.

Short title,
extent and
commence-
ment.

(2) It extends to the whole of British India, inclusive of British Baluchistan and the Santhal Parganas.

(3) *Expired ; see note below.*

In paragraph 7 of the Introduction, the official “Statement of Objects and Reasons” together with the “Notes on Clauses” of the Indian Electricity Bill, 1910, and of the Indian Electricity (Amendment) Bill, 1921, are set forth in full.

As regards the original Act of 1910, these documents will be found in the Gazette of India, 1909, Pt. V, p. 87 ; for Report of Select Committee see *ibid.*, 1910, Pt. V, p. 39 ; and for Proceedings in Council see *ibid.*, 1909, Pt. VI, p. 152, and *ibid.*, 1910, Pt. VI, pp. 12, 157, and 275.

Sub-section (1).

Electricity.—This word is not used again except in section 58. The use of it in the title follows the precedent set by the repealed Electricity Act, 1887, and the Act of 1903.

Sub-section (2).

British India.—This term is defined in the General Clauses Act, X of 1897, see paragraph 29 of Introduction. The Act of 1903 was applied to the Hyderabad

Residency Bazaars and Cantonment of Secunderabad, by Government of India Notification No. 2196 I. B., dated 4th July, 1907. The Act of 1910, with certain modifications, has since been applied to the same and also to all administered areas in Central India and to the civil and military stations of Bangalore. It has no force in Darbar territory outside those areas.

The Act does not extend to Indian States, and undertakings in such States are not subject to its provisions. There is nothing, however, to prevent the Administration of a Native State from adopting the Act should it desire to do so. It has been so adopted, with the necessary modifications, in certain States, the Darbar being substituted for the government.

Sub-section (3).

The Act received the assent of the Governor-General in Council on the 18th March, 1910. It came into force on and with effect from the 1st January, 1911, by Notification No. 107, dated 23rd December, 1910. The sub-section has therefore spent its force and expired.

PART I.
—
Sec. 1.

2. In this Act, expressions defined in the Indian Telegraph Act, 1885, [1] have the meanings assigned to them in that Act, and, unless there is anything repugnant in the subject or context,—[2]

Sec. 2.
Definitions.
XIII of 1885.

- (a) "aerial line" means any electric supply-line which is placed above ground and in the open air :
- (b) "area of supply" means the area within which alone [3] a licensee is for the time being authorized by his license to supply energy :
- (c) "consumer" means any person who is supplied with energy by a licensee,[4] or whose premises are for the time being connected for the purposes of a supply of energy with the works of a licensee :
- (d) "daily fine" means a fine for each day on which an offence is continued after conviction therefor :
- (e) "distributing main" means the portion of any main with which a service line is, or is intended to be, immediately connected : [2]
- (f) "electric supply-line" means a wire, conductor or other means used for conveying, transmitting or distributing energy together with any casing, coating, covering, tube, pipe or insulator enclosing, surrounding or supporting the same or any part thereof, or any apparatus connected therewith for the purpose of so conveying, transmitting or distributing such energy : [2]
- (g) "energy" means electrical energy when generated, transmitted, supplied or used for any purpose except the transmission of a message : [5]

PART I.
Sec. 2.

- (h) "licensee" means any person licensed under Part II to supply energy :
- (i) "main" means any electric supply-line through which energy is, or is intended to be, supplied by a licensee to the public : [2]
- (j) "prescribed" means prescribed by rules made under this Act : [6]
- (k) "public lamp" means an electric lamp used for the lighting of any street :
- (l) "service-line" means any electric supply-line through which energy is, or is intended to be, supplied by a licensee :—[2]
 - (i) to a single consumer either from a distributing main or immediately from the licensee's premises, or
 - (ii) from a distributing main to a group of consumers on the same premises or on adjoining premises supplied from the same point on the distributing main : [2]
- (m) "street" includes any way, road, lane, square, court, alley, passage or open space, whether a thoroughfare or not, over which the public have a right of way, and also the roadway and footway over any public bridge or causeway : [7] and
- (n) "works" includes electric supply-lines and any buildings, machinery or apparatus required to supply energy and to carry into effect the objects of a license [8] granted under Part II.

(Cf. Indian Elec. Act, 1903, s. 2.)

[2] The definitions in the Indian Telegraph Act, 1885, will be found in paragraph 12 of the Introduction, p. 50.

[4] The definitions here collected together from many sources are placed in alphabetical order, as is usual in Acts of the Indian Legislature. The advantage of being able to find a given term at once is somewhat discounted by the use of terms before they are defined, e.g., the words "electric supply-line" in 2 (a) and "energy" in 2 (b). This arrangement leads, in the present case, to some confusion in the matter of the complicated definitions in clauses (a), (e), (f), (i) and (l), which are thrown out of their natural order. For the benefit of non-technical readers the following further explanation of the terms, as here defined, in their natural sequence, is offered :—

Electric supply-line (f) covers all electric conductors whatsoever which carry "energy, generated, transmitted, supplied or used for any purpose except the transmission of a message." The definitions of "message" and "telegraph" in the Indian Telegraph Act, 1885, exclude such conductors as are used solely for telegraphs, telephones, electric bells or other electric signalling apparatus. Pilot wires, for measuring the pressure at distant points on a system, are included.

Aerial line (a), in view of the preceding explanation, needs no further elucidation.

Mains (i) include all licensee's electric supply-lines used for the supply of energy (as defined) to the public. The term consequently excludes a consumer's own wires and also all service-lines and pilot wires, as they do not fulfil the condition laid down as to supply to "the public"; also the term does not include the wires of a non-licensee, unless so included by reference in an agreement or sanction. A transmission of power line is a main.

Distributing mains (e) only include a part of the mains, namely the part to which service-lines are intended to be attached. This excludes those other portions of a main technically known as "feeders." That term is not used in the Act but a feeder may be explained as "the portion of any main used to convey energy from the source of supply to the point or points where it is distributed for use." That is to say, feeders and distributing mains are distinct, but together make up the whole of the "mains."

Service-lines (l) are the connecting links between the consumer's and the licensee's systems. A service-line may be taken direct from the generating station or substation as, e.g., in the case of a tramway company or factory purchasing energy on a large scale under special agreement; but generally it is connected to the nearest point of the distributing mains. See clause VI (2) of the Schedule. Although it is notoriously dangerous to tamper with the definitions in an Act this one has been altered by the Indian Electricity (Amendment) Act, 1922. The original definition referred to "a consumer," which might or might not have been interpreted to mean "consumers" [General Clauses Act, 1897, s. 13 (2), see para. 29 of the Introduction]. However that may be, cases occurred where several different consumers were supplied by a single electric supply-line which was obviously of the nature of a service-line and not of a distributing main. A building containing a number of flats is the most common instance. Often, however, a service-line originally installed for one consumer has been extended to premises beyond, so that the further consumer has less length of it to pay for than if he had an entirely separate line. Although it is exceedingly difficult to devise a perfect definition in a case like this the differentiation of a service-line and a distributing main offers little difficulty in practice. The point where a service line begins has, however, given rise to controversy. In the case of *King-Emperor v. Rangoon Electric Tramway & Supply Co.*, reported on paragraph 33 of the Introduction, the magistrate expressed a view with which the Author cannot agree, especially in view of the fact that the High Court on appeal did not decide it. It will not be disputed that a service line ends where the consumers' system begins; but where does the latter begin? If words have any meaning, it begins at the "point of commencement of supply" as laid down in rule 31. That rule was inserted specifically (by the present writer) to settle the matter, and to define the respective limits of responsibility of licensee and consumer in case of fire or other accident occurring near the point. Several such fires came within the author's cognisance during his service in India.

[*] *Within which alone*.—The word *alone* emphasizes at the outset the local limitation contemplated by the Act. A licensee may only supply energy or lay down or place electric supply-lines or works in manner authorized by his license or by sections 27 and 41. Otherwise he renders himself liable to a penalty as provided by section 42 (a).

[*] *Consumer*.—It will be observed that this term is confined by the definition to persons *supplied by a licensee*. In the case, therefore, of sanction being given for supply by a non-licensee (paragraph 20 of Introduction and section 28 below) it would be necessary to include a definition of a consumer, though it is doubtful if this has hitherto been done. When a supply is given without either a license or a sanction under section 28, the person supplied would have no status as a consumer except under an agreement entered into between the parties.

PART I.

Sec. 2.

[5] *Energy*.—In the Act of 1903 the words “expended at a rate greater than 25 watts” were used so as to make it quite clear that users of electrical energy under Part III of the Act, for electric bells and so forth, were not thereby subject to the provisions as to notice or rules. This qualification is now in Part III itself, see section 30, and the rate has been changed from 25 watts to 250 watts. The question could not, of course, arise in connection with Part II of the Act.

[6] The definition of *prescribed* is now frequently used in Acts of the Indian legislature. It is apt to give rise to confusion, which would have been obviated by continuing the use of the phrase “prescribed by rule” in the text of the Act.

[7] *Street*.—This definition follows that to be found in, for example, the Punjab Municipal Act, 1891 (XX of 1891), section 3 (4). It is a very wide one, covering all land, over which a public right of way exists, unless the contrary intention appears from the subject or context. That the sub-soil is included is clear from a perusal of section 12 (1):—

“In the case of an ordinary highway, although it may be of varying and unequal width running between fences one on each side, the right of passage or way *prima facie*, and unless there be evidence to the contrary, extends to the whole space between the fences, and the public are entitled to the use of the whole of it as the highway, and are not confined to the part which may be metalled or kept in order for the more convenient use of carriages and foot passengers. Hence the placing of telegraph posts on the greensward at the side of a highway, so as to obstruct the right of passage which the public have over the whole space between the fences, is an indictable nuisance. *R. v. United Kingdom Telegraph Company* (1862), 31 L.J. M.C. 166.” (Will’s “The Law Relating to Electric Lighting, Power and Traction,” by Dalton, fifth edition, p. 180, where other cases are also cited as to the law in Great Britain.)

As regards *public bridges* and *causeways*, only the roadway and footway over them is included in the “street,” and the sections dealing with works (Nos. 12 to 16) do not specifically refer to them. It may be noted, however, that in Great Britain “undertakers” may not cut through the structure of a bridge, though they may break up the soil and pavement of the road upon the bridge. (*Glasgow Corporation v. Glasgow and South-Western Railway Co.* (1895), A.C. 376.) They may lay their works in the road so as to rest upon the structure, so long as that structure is not cut. (*Taff Vale Railway Co. v. Cardiff Gas Co.* (1907) 5 L.G. R. 993.)

[8] The term “works” as defined is confined to the *works of a licensee* (cf. “consumer,” *supra*); but the word is also used in its ordinary sense as meaning *any* works in places. No confusion is likely to arise.

PART II.

PART II.

SUPPLY OF ENERGY.

Sections 3 to 11.

In discussing in the Introduction (paragraph 6) the difficulties that arose under the Indian Electricity Act, 1903, in the matter of the supply of energy “in bulk,” it is pointed out that section 3 of that Act was the stumbling-block. That section, now repealed, prohibited the supply of energy “for electric traction or to the public for any purpose” without a license. It was held that supply to “authorized distributors” was not included in the phrase quoted and that therefore such supply could not be licensed under the next following section; such supply could have been legally undertaken without a license at all, but the practical difficulties of carrying out works without statutory powers would have

been insuperable. The section was consequently replaced, in 1910, by a differently worded provision in Part III (section 28) limiting the powers of non-licensees who propose to "engage in the business of supplying energy." Though licenses are no longer compulsory, in the cases where section 3 of the Act of 1903 made them so, most undertakings of any magnitude must necessarily be carried out under the provisions of one; see Introduction, paragraph 20. The Schedule to the Act (subject to variation) is deemed to be part of the license, though not printed in the document [section 3 (2) (f)]; and Part IV of the Act applies to licensed as well as unlicensed undertakings—see Introduction, paragraph 21.

PART II.

—
Sec. 2.

Licenses.

3. (1) The Local Government may, on application made in the prescribed form and on payment of the prescribed fee (if any), grant to any person a license to supply energy in any specified area, and also to lay down or place electric supply-lines for the conveyance and transmission of energy—

Sec. 3.

Grant of
licenses.

(a) where the energy to be supplied is to be generated outside such area, from a generating station situated outside such area to the boundary of such area, or

(b) where energy is to be conveyed or transmitted from any place in such area to any other place therein, across an intervening area not included therein, across such area.

(2) In respect of every such license and the grant thereof the following provisions shall have effect, namely:—

(a) any person applying for a license under this Part shall publish a notice of his application in the prescribed manner and with the prescribed particulars and the license shall not be granted—

(i) until all objections received by the Local Government with reference thereto have been considered by it:

Provided that no objection shall be so considered unless it is received before the expiration of three months from the date of the first publication of such notice as aforesaid; and

(ii) until, in the case of an application for a license for an area including the whole or any part of any cantonment, fortress, arsenal, dockyard or camp or of any building or place in the occupation of the Government for naval or military purposes, the Local Government

PART II

Sec. 3.

has ascertained that there is no objection to the grant of the license on the part of the Engineer-in-Chief, Army Headquarters, India ;

- (b) where an objection is received from any local authority concerned, the Local Government shall, if in its opinion the objection is insufficient, record in writing and communicate to such local authority its reasons for such opinion ;
- (c) no application for a license under this Part shall be made by any local authority except in pursuance of a resolution passed at a meeting of such authority held after one month's previous notice of the same and of the purpose thereof has been given in the manner in which notices of meetings of such local authority are usually given ;
- (d) a license under this Part—
 - (i) may prescribe such terms as to the limits within which, and the conditions under which, the supply of energy is to be compulsory or permissive, and as to the limits of price to be charged in respect of the supply of energy, and generally as to such matters as the Local Government may think fit ; and
 - (ii) save in cases in which under section 10, clause (b), the provisions of section 5 and 7, or either of them, have been declared not to apply, every such license shall declare whether any generating station to be used in connection with the undertaking shall or shall not form part of the undertaking for the purpose of purchase under section 5 or section 7 ;
- (e) the grant of a license under this Part for any purpose shall not in any way hinder or restrict the grant of a license to another person within the same area of supply for a like purpose ;
- (f) the provisions contained in the Schedule shall be deemed to be incorporated with, and to form part of, every license granted under this Part, save in so far as they are expressly added to, varied or excepted by the license, and shall, subject to any

such additions, variations or exceptions which the Local Government is hereby empowered to make, apply to the undertaking authorized by the license :

Provided that, where a license is granted in accordance with the provisions of clause IX of the Schedule for the supply of energy to other licensees for distribution by them, then, in so far as such license relates to such supply, the provisions of clauses IV, V, VI, VII, VIII and XII of the Schedule shall not be deemed to be incorporated with the license.

(3) [*Repealed by the Devolution Act, 1920 (XXXVIII of 1920)*].

Cf. *Indian Elec. Act, 1903, s. 4.* See *Introduction, paragraph 8.*

The italic heading *licenses* covers sections 3 to 11. These headings were introduced to render the arrangement and sub-division of the Act clearer and, though printed in the Act, have no force of law—see page 17, *supra*.

Sub-section (1).

Prescribed form . . . prescribed fee.—This means prescribed by rule, section 2 (j). The rules referred to will be found in Appendix I.

To any person.—By section 3 (39) of the General Clauses Act, X of 1897 (see *Introduction, paragraph 29*), “person” includes any company or association or body of individuals whether incorporated or not. A license may therefore be granted to any local authority, or any company, or any person or persons in the ordinary sense of the word.

To supply energy.—That is, electrical energy for any purpose other than the transmission of a message, which is excluded by the definition of “energy” in this Act, section 2 (g). The phrase “any public or private purposes,” which is found in the Electric Lighting Act, 1882, is not used.

In any specified area.—This means *any* area, and covers the grant of a license for a large area over which energy may be distributed to the public or to other licensees or to both, and in which many local authorities may be concerned. The word “local,” made use of in the Act of 1903, has been omitted. [See however sub-section (2), clause (a), sub-head (ii).]

And also to lay down or place electric supply-lines . . . from a generating station situated outside such area to the boundary These words were inserted mainly in view of transmission and distribution of power schemes. The report of the Joint Select Committee of 1898 on “Electrical Energy (Generating Stations and Supply)” recommended this change in the English Law, and it was carried into effect in section 3 of the (British) Electric Lighting Act, 1909. Even in the case of supply to a single town it may often be desirable to put the generating station outside the actual area of supply. See also section 12 (1), *infra*.

Or . . . across an intervening area.—The corresponding clause of the Act of 1903 made no provision for the by no means improbable case of the area of supply being intersected or interrupted by an area not included in it.

PART II.

Sec. 3.

Sub-section (2).

Clause (a). A notice of his application.—Full publicity is given to an application for a license to enable objectors to state a case; but this must be done within three months from the date of the first publication of the notice, or the proviso to sub-head (i) bars any action being taken on the representation. This proviso was inserted to obviate delays, which have been so prevalent in the past. For the “prescribed” method of giving notice see paragraph 8 of the Introduction, and the rules.

Any cantonment . . .—Sub-head (ii) of this clause takes the place of section 40 of the Act of 1903, under which the Governor-General granted licenses in cantonments, etc. By an amendment made in 1922 the “Director of Military Works” was substituted for the “General Officer Commanding the Division”; and by the Repealing and Amending Act, 1925 (XXVII of 1925) the “Engineer-in-Chief, Army Headquarters, India” has replaced the former. As head of the Military Works Branch of the Government of India, electric supply schemes in military areas have to come before the latter officer; a number of electrical undertakings are worked by this branch of the Army Department.

Clause (b).—There is no necessity to give specific notice to local authorities, as the publication under the previous clause suffices. The local authority has no power of veto, although it has been sought to revive that power. In the United Kingdom the consent of the local authority is required but can be dispensed with if its refusal is without good grounds. It has been so dispensed with on many occasions—as many as six times in one year.

Clause (c).—In the United Kingdom ratepayers have often successfully opposed the application of a local authority for powers.

Clause (d), sub-head (i).—It is intended, as clause IX of the Schedule read in conjunction with the proviso to sub-section 3 (2) (f) clearly shows, that a single license should be able to cover either one or any number of separate cases; viz., general supply to the public in any shape or form, or bulk supply restricted to other licensees only, or to power users on a large scale, or to any combination of these and other circumstances. It will be noticed that at the end of this clause the word “other,” which will be found in the Act of 1903 before the word “matters,” has been omitted in order to get rid of any difficulties due to the *ejusdem generis* rule of construction. It will therefore be seen that the greatest latitude is permitted as to what matters shall be provided for in a license. The procedure to be followed on making application for a license is discussed in the Introduction, paragraph 8. See also the Rules and the Model Form of License in Annexure III to the Rules, in Appendix I of this book.

Ibid. Compulsory or Permissive.—See clause IV of the Schedule *post* and paragraph 11 of the Introduction.

Ibid. As to the Limits of Price.—See section 23 *post* and paragraph 18 of the Introduction.

Clause (d), sub-head (ii).—This must be read in conjunction with the words “other than a generating station declared by the license not to form part of the undertaking for the purpose of purchase” in sections 5 (b) and 7 (I). The reason for inserting the provisions is discussed fully in paragraph 9 of the Introduction, under the marginal note of “combined undertakings.”

Clause (e). The grant . . .—This clause, taken from 51 & 52 Vict., c. 12, s. 1, prevents an absolute monopoly being granted in any case, by admitting of the possibility of competition. There are certainly few, if any, places in India where such competition would pay, but as a safeguard the clause is unquestionably desirable. No doubt the use of bare aerial lines will be general in electrical undertakings in India; and, this being so the first party in the field will always have a great, if

not insuperable, advantage: for, with telegraph, telephone, and (possibly) electric traction wires all in the streets it is fairly certain that two systems of bare aerial lines for the very same purpose will in no case be tolerated, so that the original licensee will have a practical monopoly. At the same time it is always within the power of Government to grant a license to a competing company, or to the local authority, or to revoke a license for default; and the fear of this cannot fail to have a salutary effect on a licensee who does not prove equal to his responsibilities. Under certain conditions the Tata Hydro-electric Power Supply Co. is permitted to supply energy to factories and works within part of the area of the Bombay Electric Supply and Traction Co., as well as to that company. See following note. Reference should be made also to section 28 of the Act. It would be possible to allow competition in an area between a licensee and a non-licensee acting under powers conferred under that section, but this would be highly undesirable; the totally distinct matter of competitive supply to a limited class of persons (such as employees of a railway company) by the employer is discussed in the note on section 28 (1) as regards "conditions."

For a like purpose.—When the purposes are not alike the considerations in the preceding note lose much of their significance. If, however, a license was proposed to be given to a power company, for supply over an area in which a licensee was already supplying energy, that licensee would have a special claim to be heard in opposition. He could propose the insertion of special clauses relating to the supply of energy in bulk, or to large power users, or again limiting the right of the power company to supply energy to small consumers, or for lighting purposes. Compare also the first proviso to section 27 and the second proviso to section 28 (1), where the question of competition is dealt with.

Clause (f). The provisions contained in the Schedule.—This clause may be compared with section 1 of the (British) Electric Lighting (Clauses) Act, 1899, by which the provisions of the Schedule to that Act are (subject to specific variation, etc.) deemed to be incorporated in all Special Orders and Special Acts. By this means uniformity and brevity are ensured.

Which the Local Government is hereby empowered to make.—Express additions to, or variation of, any particular clauses of the Schedule can, under the authority of these words, be introduced in any particular license, or clauses may be entirely omitted. Some clauses are unsuited for power distribution schemes, see following note.

Provided that . . .—This proviso excepts certain clauses of the Schedule once for all, in the case of supply by bulk licensees to distributing licensees, under the provisions of the alternative clause IX of the Schedule. The opening words of that clause "Where, and in so far as, . . ." should be noted, as showing that a single license may cover both bulk and ordinary supply.

Sub-section (3).

This was repealed by the Devolution Act, 1920 (XXXVIII of 1920). It gave the Governor-General in Council the power of "control" over the Local Government in this particular matter. No doubt, at present, such control exists in constitutional theory over *all* actions of a Local Government, as well as under the Government of India Act; but in practice it has fallen into desuetude.

4. (1) The Local Government may, if in its opinion the public interest so requires, revoke a license in any of the following cases, namely:—

Sec. 4.
Revocation
or amend-
ment of
licenses.

PART II.
Sec. 4.

- (a) where the licensee, in the opinion of the Local Government, makes wilful and unreasonably prolonged default in doing anything required of him by or under this Act ;
 - (b) where the licensee breaks any of the terms of conditions of his license the breach of which is expressly declared by such license to render it liable to revocation ;
 - (c) where the licensee fails, within the period fixed in this behalf by his license or any longer period which the Local Government may substitute therefor by order under sub-section (3), clause (b), and before exercising any of the powers conferred on him thereby in relation to the execution of works,—
 - (i) to show, to the satisfaction of the Local Government, that he is in a position fully and efficiently to discharge the duties and obligations imposed on him by his license, or
 - (ii) to make the deposit or furnish the security required by his license ;
 - (d) where the licensee is, in the opinion of the Local Government, unable by reason of his insolvency, fully and efficiently to discharge the duties and obligations imposed on him by his license.
- (2) Where the Local Government might, under sub-section (1), revoke a license, it may, instead of revoking the license, permit it to remain in force subject to such further terms and conditions as it thinks fit to impose, and any further terms or conditions so imposed shall be binding upon, and be observed by, the licensee, and shall be of like force and effect as if they were contained in the license.
- (3) Where in its opinion the public interest so permits, the Local Government may, on the application or with the consent of the licensee, and, if the licensee is not a local authority, after consulting the local authority (if any) concerned,—
- (a) revoke a license as to the whole or any part of the area of supply upon such terms and conditions as it thinks fit, or
 - (b) make such alterations or amendments in the terms and conditions of a license, including the provisions specified in section 3, sub-section (2), clause (f), as it thinks fit.

Cf. Indian Elec. Act, 1903, s. 4 (2). See Introduction, paragraph 9.

PART II.

Sub-section (1).

Sec. 4.

The opening substantive part of the general revocation clause was altered in 1910 by the omission of the words "as to the whole or any part of the area of supply" which were in the Indian Electricity Act, 1903. As the Act stands, compulsory revocation and purchase affect the entire undertaking (sections 5 to 8), but see note on sub-section (3). The original arrangement might have entailed great hardship on the licensee.

If in its opinion the public interest so requires.—The power to revoke may be somewhat curtailed in actual practice by this provision. If an inefficient company-licensee is to be succeeded by a no more efficient local authority-licensee it may sometimes be inadvisable to revoke a license, for the undertaking can seldom be abandoned without great loss to the community. The licensee contravening the provisions of his license is also liable to a daily fine under section 42, apart entirely from this liability to forfeit his concession under certain conditions.

Clause (c). See also clause I of the Schedule. In the Act of 1903 the period was given as six months; it has proved more satisfactory to fix it in each license according to circumstances, and to extend it from time to time if good cause is shown. By Madras G.O. 1693 W., dated 1st Nov., 1920, a license granted for supply in Karaikudi was revoked for failure to deposit security.

Sub-section (3).

This in part corresponds to section 4 (2) (g) of the Act of 1903. It provides in clause (a) for revocation as to the whole or any part of the area of supply on the application, or with the consent, of the licensee, the case being different to that dealt with by sub-section (1)—see notes above. The sub-section now also provides in clause (b) for alterations or amendments in the terms and conditions of a license, with consent. The provision is applicable to licenses granted under the repealed Act; see section 58 (1) proviso. The intention originally was that in cases in which the rights of third parties are not affected Government would merely signify to the licensee its assent to the proposed alterations or amendments; but that if the public interest, or the interest of any individual, might be affected adversely, opportunity to object would be given. As matters stand, some of the general rules as to applications for new licenses are made to apply to applications for amendment; see rule 22 as to "orders supplementing or amending licenses." By G.O. No. 778 W., dated 12th June, 1919, the Government of Madras made certain additions and amendments to the three separate licenses which still co-exist in Madras, viz. :

The Madras Electric License, 1905.

The Madras (Port) Electric License, 1909.

The Madras (Cantonment) Electric License, 1910.

These licenses were all granted under the Indian Electricity Act, 1903, to the Madras Electric Supply Corporation. The amendment raised the maximum permissible rate of charge for lights and fans on a combined circuit from four to five annas a unit, and Clause XII of the Schedule to the Act was at the same time varied [section 3 (2) (f)] to give the revised rates currency for three years only.

Sec. 5.

5. Where the Local Government revokes, under section 4, sub-section (1), the license of a licensee not being a local authority, the following provisions shall have effect, namely :—

Provisions where license of licensee, not being a local authority, is revoked.

PART II.

Sec. 5.

- (a) the Local Government shall serve a notice of the revocation upon the licensee, and, where the whole of the area of supply is included in the area for which a single local authority is constituted, upon that local authority also, and shall in the notice fix a date on which the revocation shall take effect; and on and with effect from that date all the powers and liabilities of the licensee under this Act shall absolutely cease and determine:
- (b) where a notice has been served on a local authority under clause (a), the local authority may, within three months after the service of the notice, and with the written consent of the Local Government, by notice in writing, require the licensee to sell, and thereupon the licensee shall sell, the undertaking to the local authority on payment of the value of all lands, buildings, works, materials and plant of the licensee suitable to, and used by him for, the purposes of the undertaking, other than a generating station declared by the licensee not to form part of the undertaking for the purpose of purchase, such value to be, in case of difference or dispute, determined by arbitration:
- Provided that the value of such lands, buildings, works, materials and plant shall be deemed to be their fair market-value at the time of purchase, due regard being had to the nature and condition for the time being of such lands, buildings, works, materials and plant, and to the state of repair thereof, and to the circumstance that they are in such a position as to be ready for immediate working, and to the suitability of the same for the purposes of the undertaking, but without any addition in respect of compulsory purchase or of goodwill or of any profits which may be or might have been made from the undertaking, or of any similar considerations;
- (c) where no purchase has been effected by the local authority under clause (b), and any other person is willing to purchase the undertaking, the Local Government may, if it thinks fit, with the consent of the licensee, or without the consent of the licensee in case the price is not less than that for which the local authority might have purchased the

same, require the licensee to sell, and thereupon the licensee shall sell, the undertaking to such other person ;

- (d) where no purchase has been effected under clause (b) or clause (c) within such time as the Local Government may consider reasonable, or where the whole of the area of supply is not included in the area for which a single local authority is constituted, the Local Government shall have the option of purchasing the undertaking and, if the Local Government elects to purchase, the licensee shall sell the undertaking to the Local Government upon terms and conditions similar to those set forth in clause (b) ;

- (e) where a purchase has been effected under any of the preceding clauses,—

- (i) the undertaking shall vest in the purchasers free from any debts, mortgages or similar obligations of the licensee or attaching to the undertaking :

Provided that any such debts, mortgages or similar obligations shall attach to the purchase-money in substitution for the undertaking ; and

- (ii) the revocation of the license shall extend only to the revocation of the rights, powers, authorities, duties and obligations of the licensee from whom the undertaking is purchased, and, save as aforesaid, the license shall remain in full force, and the purchaser shall be deemed to be the licensee :

Provided that where the Local Government elects to purchase under clause (d), the license shall, after purchase, in so far as the Local Government is concerned, cease to have any further operation ;

- (f) where no purchase has been effected under any of the foregoing clauses, the licensee shall have the option of disposing of all lands, buildings, works, materials and plant belonging to the undertaking in such manner as he may think fit :

Provided that, if the licensee does not exercise such option within a period of six months from

PART II.

Sec. 5.

the date on which the same became exercisable, the Local Government may forthwith cause the works of the licensee in, under, over, along or across any street to be removed and every such street to be reinstated, and recover the cost of such removal and reinstatement from the licensee ;

- (g) if the licensee has been required to sell the undertaking, and if the sale has not been completed by the date fixed in the notice issued under clause (a), the purchaser may, with the previous sanction of the Local Government, work the undertaking pending the completion of the sale.

Ct. Indian Elec. Act, 1903, s. 5. See Introduction, paragraph 9.

Section 5 lays down the practice to be followed in cases of revocation of licenses under section 4 (I), granted to parties other than local authorities, and also deals with the question of purchase in such cases. In conformity with section 4 (I) the revocation here contemplated is only in respect of the *whole* area of supply comprised in a license.

Clause (a).—If the whole area of supply is included in the area for which a single local authority is constituted, then notice of revocation must be served upon such local authority. The fact of the generating station being situate outside that area would not take the case outside this section or affect the option of purchase given to the local authority by clause (b), *infra*. [See section 3 (I).] In point of fact it will not often happen in large undertakings that only one local authority will be involved, as the definition of a local authority is very wide ; see para. 29. In that case see sub-section (d) of this section.

Clause (b) gives a local authority, upon whom notice has been served under clause (a), an option to purchase “the undertaking” upon certain terms, similar in the main to those in force in Great Britain. The use of the term “the undertaking” would be somewhat misleading were it not explained further in setting forth the terms. The sale of an undertaking must ordinarily be based upon its conditions as a working concern taking into account good-will and the profits which are being made. These considerations are however expressly barred in estimating the “then value” under this clause ; and it is the lands, buildings, works, materials and plant which are to be sold. The suitability of the plant, etc., for the purposes of the undertaking, and the circumstance that it is in such a position as to be ready for immediate working, are to be taken into account, but these factors are of purely speculative value : other similar second-hand plant, equally old and out of date, but still capable of similar work, might be available in the open market for a mere song ; the only factor capable of giving the licensee better value would then be the fact that his plant is erected and ready for working, and it is evident that the other plant could be made so in the course of a few months. The purchase clauses in the Tramways Acts contain very similar terms ; undertakings have been transferred under the British Tramways Acts and various interesting legal decisions have been arrived at as regards purchase terms. See paragraphs 9, 10 and 35 of the Introduction.

Other than a generating station. . . .—These words must be read in conjunction with section 3 (2) (d), sub-head (ii). Their significance in the case of combined under-

takings for electric traction and general supply is discussed in paragraph 9 of the Introduction.

Clause (c) provides for the purchase of the undertaking by third parties, with the consent of the Local Government, in cases where no purchase is effected by the local authority under clause (b).

Clause (d) gives the Local Government the option of purchasing the undertaking where no purchase has been effected under clause (b) or (c), or where the whole area of supply is not included in the area for which a single local authority is constituted. In such a case the terms of purchase are to be similar to those set forth in clause (b), but the license itself is to be deemed, under the proviso to sub-clause (e), sub-head (ii) to have no further operation; the reason for this is obvious, for Government cannot be its own licensee. Certain of the penal sections remain in force, however; see section 49. There is presumably nothing to prevent Government, where a purchase has been effected under this clause, from handing over the undertaking or any part of it to any local authority or person; a new license would then be necessary in the interest of the consumers affected, although, as regards further breaking up of streets, etc., the provisions of section 29 do not make this obligatory.

Clause (e), "free from any debts, mortgages or . . ."—See section 9 (2). The effect of these words is to preclude a mortgage of the undertaking from being a charge thereon in the event of a sale being effected under clause (b) or clause (c): for the mortgagee's protection, however, it should be made clear in every case that his security comprises all purchase money which may be paid to the licensee in the event of a sale being effected under either of the above clauses. Section 9 (2) prohibits the licensee from mortgaging his undertaking except with the previous consent in writing of the Local Government.

The proviso to sub-head (i) is intended to protect the mortgagee.

Clause (f). *The licensee shall have the option . . .*—This option was not given in the Act of 1903 as regards this section. If the option is not exercised within six months the removal of all works in the streets may be ordered.

6. (1) Where the Local Government revokes the license of a local authority under section 4, sub-section (1), and any person is willing to purchase the undertaking, the Local Government may, if it thinks fit, require the local authority to sell, and thereupon the local authority shall sell, the undertaking to such person on such terms as the Local Government thinks just. Sec. 8.
Provisions where license of local authority is revoked.

(2) Where no purchase has been effected under sub-section (1), the licensee shall have the option of disposing of all lands, buildings, works, materials and plant belonging to the undertaking in such manner as he may think:

Provided that, if the licensee does not exercise such option within a period of six months from the date on which the same became exercisable, the Local Government may forthwith cause the works of the licensee in, under, over, along or across any street to be removed and every such street to be reinstated, and recover the cost of such removal and reinstatement from the licensee.

PART II

Sec 6

Cf Indian Elec. Act 1903, s 6 See Introduction, paragraph 9

As already observed, section 5 only deals with the revocation of licenses granted to parties other than local authorities. This section provides for cases where the license of a local authority is revoked though in like manner as in section 5 the revocation contemplated is only in respect of the whole area of supply comprised in the license.

Sub section (1).

The license of a local authority can be revoked under clauses (a), (b), (c) or (d) of section 4 (1), and provision is made in this sub section for the transfer of the revoked undertaking to any person willing to buy it. The interests of the consumers imperatively demand a continuance of supply and the interests of the ratepayers would also be better served in the majority of cases by such a transfer, even if effected at a heavy loss. No such provision was contained in the Act of 1903 and the corresponding section (6) merely provided in cases of revocation for the removal of the licensee's works and the reinstatement of the streets.

Sub section (2)

If no sale is effected the provisions of this sub section come into play. The option is now given to the licensee of disposing of his property within six months, as in clause (f) of the preceding section.

Sec. 7

Purchase of undertaking.

7. (1) Where a license has been granted to any person not being a local authority, and the whole of the area of supply is included in the area for which a single local authority is constituted, the local authority shall, on the expiration of such period, not exceeding fifty years, and of every such subsequent period, not exceeding twenty years, as shall be specified in this behalf in the license, have the option of purchasing the undertaking, and, if the local authority, with the previous sanction of the Local Government, elects to purchase, the licensee shall sell the undertaking to the local authority on payment of the value of all lands, buildings, works, materials and plant of the licensee suitable to, and used by him for, the purposes of the undertaking, other than a generating station declared by the license not to form part of the undertaking for the purpose of purchase, such value to be, in case of difference or dispute, determined by arbitration:

Provided that the value of such lands, buildings, works, materials and plant shall be deemed to be their fair market-value at the time of purchase, due regard being had to the nature and condition for the time being of such lands, buildings, works, materials and plant, and to the state of repair thereof, and to the circumstance that they are in such a position as to be ready for immediate working, and to the suitability of the same for the purposes of the undertaking:

Provided also that there shall be added to such value as aforesaid such percentage, if any, not exceeding twenty per

centum on that value as may be specified in the license, on account of compulsory purchase.

PART II.
Sec. 7.

(2) Where—

- (a) the local authority does not elect to purchase under sub-section (1), or
- (b) the whole of the area of supply is not included in the area for which a single local authority is constituted, or
- (c) a licensee supplies energy from the same generating station to two or more areas of supply, each controlled by its own local authority, and has been granted a license in respect of each area of supply,

the Local Government shall have the like option upon the like terms and conditions.

(3) Where a purchase has been effected under sub-section (1) or sub-section (2),—

- (a) the undertaking shall vest in the purchasers free from any debts, mortgages or similar obligations of the licensee or attaching to the undertaking :

Provided that any such debts, mortgages or similar obligations shall attach to the purchase-money in substitution for the undertaking ; and

- (b) save as aforesaid, the license shall remain in full force, and the purchaser shall be deemed to be the licensee :

Provided that where the Local Government elects to purchase under sub-section (2), the license shall, after purchase, in so far as the Local Government is concerned, cease to have any further operation.

(4) Not less than two years' notice in writing of any election to purchase under this section shall be served upon the licensee by the local authority or the Local Government, as the case may be.

(5) Notwithstanding anything hereinbefore contained, a local authority may, with the previous sanction of the Local Government, waive its option to purchase and enter into an agreement with the licensee for the working by him of the undertaking until the expiration of the next subsequent period referred to in sub-section (1), upon such terms and conditions as may be stated in such agreement.

PART II.

Sec. 7.

Cf. Indian Elec. Act, 1903, s. 7. See Introduction, paragraph 10.

Sub-section (1).

And the whole of the area of supply is included. . . .—As in the sections immediately preceding, the purchase of an undertaking piecemeal has been abolished; it is to be bought as a whole either by a single local authority under this sub-section or by the Government under sub-section (2); if neither elects to purchase the license continues in force indefinitely, unless it is revoked.

Not exceeding fifty years.—Unless the period is enlarged under section 10 (a), this is the maximum period for which a licensee can have undisputed possession of his property. In the repealed Act the period followed that given under the British Act of 1888, namely, 42 years. The extra eight years in conjunction with slightly improved purchase terms should have the desired effect of encouraging enterprise. The subsequent recurring period has also been enlarged from 10 to 20 years. The actual periods are such "as shall be specified in the license," so that the alteration in the Act has no immediate effect on the currency of pre-existing licenses; revision can, however, be sought under section 4 (3) (b).

Shall sell the undertaking.—The revised terms of compulsory purchase have been fully discussed in paragraph 10 of the Introduction. The terms and conditions here set forth can, it should be noted, be varied or excepted under clauses (a) and (b) of section 10. If the new terms are still considered too severe there is no reason why an applicant should not ask to have his undertaking saleable as "a going concern." The undertakings in Calcutta and Rangoon embrace such a provision. The purchase clause will not be entirely wiped out as a rule, except in the case of undertakings brought into being mainly for bulk supply.

Other than a generating station.—These words must be read in conjunction with section 3 (2) (d), sub-head (ii), as in the case of the similar addition in section 5 (b). Their significance in regard to combined undertakings for general supply and electric traction is fully discussed in paragraph 9 of the Introduction.

Provided also.—The form of this proviso shows clearly that the arbitrator must assess the value of the lands, buildings, works, materials and plant in the manner set forth in the substantive part of the clause as modified by the first proviso. The addition of the percentage specified in the license will then be made on the value so determined. The addition to be made is limited to 20 per cent., and this is, in the opinion of those commercial men best qualified to judge, by no means too generous. Some existing licenses, however, contain a lower percentage.

Sub-section (2).

Of the three cases here set forth in which the Government may purchase an undertaking clauses (a) and (b) follow naturally on the substantive portion of sub-section (1). Clause (c), however, meets the case of undertakings, existing prior to the commencement of this Act, which are being worked under several different licenses with a common generating station or stations. Several such undertakings exist having separate Municipal and Cantonment licenses, granted under the Act of 1903, liable to purchase by different authorities after the expiry of 42 years. This clause substitutes a single option of purchase by Government and the Local Government can, if it exercises that option, dispose of the undertakings subsequently, under a fresh license, as it thinks fit. It is unlikely that Government would itself retain the undertaking, unless the greater part of the area of supply were Cantonments.

Undertakings financed and built up by Government, like certain hydro-electric works, would not come under license unless transferred to a company or person. The Ganges scheme in the United Provinces and the Pykara group of schemes in the Nilgherries (Madras) are of this nature; while the Mandi or Uhl River scheme of the Punjab Government is similar, but has its generating station in Mandi State.

Sub-section (3).

PART II.

These provisions, incorporated by reference in the corresponding section of the Act of 1903, were in 1910 expanded in manner similar to clause (e) of section 5, the notes on which should be consulted.

Sec. 7.

Sub-section (4).

The notice to be given was extended in 1910 from one to two years.

Sub-section (5).

Instead of purchasing the undertaking the local authority may let the licensee work it under agreement. But if the licensee refuses to come to such an agreement the local authority appears to have no remedy other than purchase.

8. Where, on the expiration of any of the periods referred to in section 7, sub-section (1), neither a local authority nor the Local Government purchases the undertaking and the license is, on the application or with the consent of the licensee, revoked, the licensee shall have the option of disposing of all lands, buildings, works, materials and plant belonging to the undertaking in such manner as he may think fit:

Sec. 8.

Provisions where no purchase and license revoked with consent of licensee.

Provided that, if the licensee does not exercise such option within a period of six months, the Local Government may proceed to take action as provided in section 5, clause (f), proviso.

Cf. Indian Elec. Act, 1903, s. 8.

On the application or.—It is unlikely that this provision will ever come into actual use. If a license has been in force for fifty years the undertaking will hardly then be abandoned.

9. (1) The licensee shall not, at any time without the previous consent in writing of the Local Government, acquire, by purchase or otherwise, the license or the undertaking of, or associate himself so far as the business of supplying energy is concerned with, any person supplying, or intending to supply, energy under any other license, and, before applying for such consent, the licensee shall give not less than one month's notice of the application to every local authority, both in the licensee's area of supply, and also in the area or district in which such other person supplies, or intends to supply, energy:

Sec. 9.

Licensee not to purchase, or associate himself with, other licensed undertakings or transfer his undertaking.

Provided that nothing in this sub-section shall be construed to require the consent of the Local Government for the supply of energy by one licensee to another in accordance with the provisions of clause IX of the Schedule.

(2) The licensee shall not at any time assign his license or transfer his undertaking, or any part thereof, by sale,

PART II.
Sec. 9.

mortgage, lease, exchange or otherwise without the previous consent in writing of the Local Government.

(3) Any agreement relating to any transaction of the nature described in sub-section (1) or sub-section (2), unless made with, or subject to, such consent as aforesaid, shall be void.

Cf. Indian Elec. Act, 1903, s. 9.

Sub-section (1).

The license.—The Act of 1903 forbade the purchase by a licensee of another undertaking, but it was not quite clear that the license was meant to be included in the term, although, in the event of the purchase of the former, the latter would have been automatically transferred to the purchaser; the words "the license" were therefore added in 1910. [See section 5 (d).]

Associate himself with . . .—It may be taken for granted that, ordinarily, sanction would not be withheld to an application for leave to associate with another undertaking. For reasons connected with compulsory purchase (see latter part of the following note) it may be desirable to retain these words; but in most instances likely to arise in practice the association of two or more licensees for mutual support and assistance would be of unqualified benefit to the public. The (British) "Electricity (Supply) Act, 1926," virtually compels all undertakings to combine for the common good.

Provided that.—The question has been raised in England as to whether the prohibition in the corresponding clause of the British Acts could be construed so as to prevent the taking of a supply of energy "in bulk" by one licensee from another. The term "in bulk" is a purely arbitrary one, hardly capable of exact definition but well understood, and the supply given by one licensee to another would almost necessarily be of this nature. No such prohibition is intended; any person, whether a licensee or an ordinary individual, may take advantage of the provisions of the Act (section 22 and Schedule, clauses VI to IX) to demand and receive a supply of energy from any other person authorized to give such supply. This would appear to be quite clear from section 22 of the Act. The notes on section 3 (2) (d), *supra*, have a bearing on the same point. It has, however, been held in Great Britain that a company holding separate "Special orders" for two districts may not without express sanction associate the two by supplying both from one generating station. (*The Electrician*, March 31, 1905, p. 971.) The more or less parallel case of combined "general supply" and electric traction—the latter authorized by an order issued under the Tramway Acts—needs careful consideration. Such a combination conduces to economy in working and is therefore to the consumer's advantage; but when the option of purchase arises as to either undertaking awkward questions may arise as to the disposal of the generating station, unless the purchase clauses have been very carefully drawn up. If the accounts have not been kept separately (Schedule, clause III) further complications will arise. This particular phase has already been discussed in paragraph 9 of the Introduction. The (British) Electric Lighting Act, 1909, section 20, has dealt with the question of illegal association in a provision beginning with the words "For removing doubts, it is hereby declared . . ." and the proviso under discussion was inserted in 1910 for the same purpose.

Sub-section (2).

Assign his license.—These words were added in 1910 for the reason given in the preceding note; see also note on section 5, clause (e), *supra*, as to mortgages.

10. Notwithstanding anything in sections 5, 7 and 8, the Local Government may, in any license to be granted under this Act—

PART II.

Sec. 10.

General
power for
Government
to vary terms
of purchase.

- (a) vary the terms and conditions upon which, and the periods on the expiration of which, the licensee shall be bound to sell his undertaking, or
- (b) direct that, subject to such conditions and restrictions (if any) as it may think fit to impose, the provisions of the said sections or any of them shall not apply.

Cf. Indian Elec. Act, 1903, s. 10.

The local authority will always do its best to keep to the terms set forth in sections 5 and 7, while the licensee will equally endeavour to have his undertaking saleable as a "going concern" or at least with the full admissible addition on account of compulsory purchase. Where there are two or more competitors in the field the local authority will no doubt carry the day, but this will generally be the case only in localities which have a more or less stationary or stable population, who use electrical energy all the year round; such places are not plentiful in India and will soon be taken up. Then come the numerous places where electric light and fans would be a boon, but where there is an annual exodus of a large part of the population to the hills or to England; in such places as these there will be no competition; the difficulty will be to induce any company to take up a concession at all, and this will probably only be effected by offering liberal terms of purchase after the full term of fifty years. Of course it will always be open to the local authority to apply for a license itself, and in Great Britain preference is generally given to an application from a local authority. By the Devolution Act, 1920 (XXXVIII of 1920) the words "with the previous sanction of the Governor-General in Council" were repealed.

In any license to be granted.—The words "to be" have been added to make it absolutely plain that this section cannot be used to vary terms of purchase at any time existing in a license once granted. Such a supposition was on the face of it absurd, but considerable misunderstanding seems to have been extant regarding the intention of the section. It is, however, always possible for a new license to be granted on different terms, the old one being simultaneously revoked by consent [sec. 4 (3) (a)]. This has, in fact, been done.

Clause (a). And conditions.—These words have been added to make it clear that the period, after which purchase can be effected, can also be varied in a new license beyond the maximum period specified in section 7. This would seldom be necessary, however.

Clause (b). Or direct that . . . the said sections . . . shall not apply.—To some classes of undertakings a clause allowing compulsory purchase would be virtually inapplicable, although the remote possibility of such purchase on unremunerative terms might act as a deterrent to financial support. The wording of the Act of 1903 did not admit of the complete exclusion of the purchase clauses.

Such conditions and restrictions if any.—In the case of Power Companies the intention is, as in England, generally to impose a sliding scale, regulating the relation between the average rate of charge and the permissible dividend payable, or some system of profit sharing. This is further explained, with a tabular example, in the Introduction, paragraph 17.

PART II.

Sec. 11.

Annual
accounts of
licensee.

II. (7) Every licensee shall, unless expressly exempted from the liability by his license, or by order in writing of the Local Government, prepare and render to the Local Government or to such authority as the Local Government may appoint in this behalf on or before the prescribed date in each year, an annual statement of accounts of his undertaking made up to such date, in such form, and containing such particulars, as may be prescribed in this behalf.

(2) The licensee shall keep copies of such annual statement at his office and sell the same to any applicant at a price not exceeding five rupees per copy.

Cf. Indian Elec. Act, 1903, s. 11.

Sub-section (1).

The necessity for this provision is obvious when compulsory purchase is taken into consideration; for, should the terms at any time be varied to include good-will under section 10, the accounts of the undertaking would be absolutely essential in determining the amount payable. Similarly, in the case of undertakings subject to no purchase, but operating instead with a sliding scale, the accounts would be required in determining the dividend payable at any time, as a guarantee that the profits were being properly dealt with. Failure to comply will bring the offender under the general penal section 47.

Unless expressly exempted.—There may be cases where a license has been granted but the submission and publication of the accounts is not necessary. Such cases will perhaps be rare, but these words have been inserted in the re-enacted Act to meet them if and when they arise. Exemption has been granted in the case of the Mussoorie-Dehra Dun Municipal undertaking, the accounts of which are merged in those of the Municipality. They defy analysis in consequence.

Further provisions as to accounts will be found in the Schedule, clauses II and III, and the specified forms of accounts, "prescribed" by the rules for local authorities and companies respectively will be found set forth in Annexures IV and V to the Rules (Appendix I).

Of his undertaking.—Not, it will be observed, of his business, if that includes both a licensed undertaking and some other concern such as a tramway working under powers conferred by another Act. See section 9 of the Act, the notes thereon, and paragraph 9 of the Introduction under "Combined Undertakings."

Works.

Sections 12 to 19.

Generally speaking the provisions of the eight sections of Part II comprised under the italic heading "Works," are very little changed from their form in the Act of 1903. The first sub-section of section 27 of that Act was, however, inserted here in 1910 as section 17, so that the numbering of the two following sections 18 and 19 was then changed. Further provisions as to works will be found in the Schedule; see also paragraphs 11 to 14 of the Introduction.

PART II.

Sec. 12.

Provisions
as to the
opening and
breaking up
of streets,
railways and
tramways.

12. (1) Any licensee may, from time to time but subject always to the terms and conditions of his license, within the area of supply, or, when permitted by the terms of his license to lay down or place electric supply-lines without the area of supply, without that area—

- (a) open and break up the soil and pavement of any street, railway or tramway ;
- (b) open and break up any sewer, drain or tunnel in or under any street, railway or tramway ;
- (c) lay down and place electric supply-lines and other works ;
- (d) repair, alter or remove the same ; and
- (e) do all other acts necessary for the due supply of energy.

(2) Nothing contained in sub-section (1) shall be deemed to authorize or empower a licensee, without the consent of the local authority or of the owner and occupier concerned, as the case may be, to lay down or place any electric supply-line or other work in, through or against any building, or on, over or under any land not dedicated to public use whereon, whereover or whereunder any electric supply-line or work has not already been lawfully laid down or placed by such licensee :

Provided that any support of an aerial line or any stay or strut required for the sole purpose of securing in position any support of an aerial line may be fixed on any building or land or, having been so fixed, may be altered, notwithstanding the objection of the owner or occupier of such building or land, if the District Magistrate or, in a Presidency-town or Rangoon, the Commissioner of Police by order in writing so directs :

Provided, also, that, if at any time the owner or occupier of any building or land on which any such support, stay or strut has been fixed shows sufficient cause, the District Magistrate or, in a Presidency-town or Rangoon, the Commissioner of Police may by order in writing direct any such support, stay or strut to be removed or altered.

(3) When making an order under sub-section (2) the District Magistrate or the Commissioner of Police, as the case may be, shall fix the amount of compensation or of annual rent, or of both, which should in his opinion be paid by the licensee to the owner or occupier.

PART II.
Sec. 12.

(4) Every order made by a District Magistrate or a Commissioner of Police under sub-section (2) shall be subject to revision by the Local Government.

(5) Nothing contained in sub-section (1) shall be deemed to authorize or empower any licensee to open or break up any street not repairable by the Government or a local authority, or any railway or tramway, except such streets, railways or tramways (if any), or such parts thereof, as he is specially authorized to break up by his license, without the written consent of the person by whom the street is repairable or of the person for the time being entitled to work the railway or tramway, unless with the written consent of the Local Government:

Provided that the Local Government shall not give any such consent as aforesaid, until the licensee has given notice, by advertisement or otherwise as the Local Government may direct, and within such period as the Local Government may fix in this behalf, to the person above referred to, and until all representations or objections received in accordance with the notice have been considered by the Local Government.

Cf. Indian Elec. Act, 1903, s. 12.

Sub-section (1).

The general power to break up streets conferred here is qualified by the 2nd and 5th sub-sections, and also by the succeeding sections, which specify what notice must be given and what practice must be followed in exercising these powers.

Without the area of supply.—See notes on section 3, sub-section (1), where the laying of mains outside the area of supply is dealt with.

Clauses (a) and (b).—“The roadway and footway over any public bridge or causeway” is included in the definition of a street. But the power to break up streets and bridges extends only to the soil and pavement. The structure of a bridge may not be interfered with without the special sanction of the authority competent to give such sanction. The breaking up of streets even with the consent of the road authority does not legalize what would otherwise be a public nuisance. In *Edgware Highway Board v. Harrow District Gas Company* (1874), L.R. 10 Q.B. 92, Blackburn, J., said, “I do not think that the license to open the highway is necessarily a license to commit an indictable offence. It is quite possible to open the highway within the terms of the agreement without creating a nuisance.”

Further notes on bridges will be found in the comments on the definition of “street” in section 2 (m), *supra*.

Tunnel.—This means a tunnel *ejusdem generis* with “sewers” and “drains,” and does not include a railway tunnel (*Glasgow & South-Western Railway v. Glasgow Corporation* (1901), 3 F. 526); or a tunnel constructed under a road by the owner of land on both sides, for the purpose of connecting his several premises (*Schweder v. Worthing Gas Light & Coke Co.* (1912) 1 Ch. 83).

Sub-section (2).

PART II.

Sec. 12.

Compare section 7 of the (British) Gas Works Clauses Act, 1847, which is incorporated in the British law and set forth in the Appendix to the Schedule to the Electric Lighting Clauses Act, 1899. The notes on that clause in Will's "The Law Relating to Electric Lighting, Power and Traction," by Dalton, 5th edition, p. 187, may also be read, together with the legal decisions there quoted. Arches used as cellars have been held to be "buildings" within the meaning of the British section referred to (*Thompson v. Sunderland Gas Co.* (1877), 2 Ex. D. 429); and so also have subways under a road (*Schweder v. Worthing Gas Light & Coke Co.* (1912) 1 Ch. 83).

Provided.—The two provisos are rendered necessary by the use of aerial lines. Power is now given to fix supports for aerial lines on private buildings as well as stays and struts which often *must* be so fixed if the pole or post is to be adequately supported; though of course poles strong enough to have the required factor of safety by themselves can, and should, generally be used in towns. Where works have already been lawfully laid down the prohibition does not apply to the repair or replacement of them.

The second proviso will ensure the protection of the public from misuse of these powers. Though a "post" as defined in the Indian Telegraph Act, 1885 (incorporated in this Act by section 2) includes a stay or strut supporting it, the converse is not the case. Compensation, or annual rent, or both may be paid to the owner or occupier under sub-section (3).

Modification in the Federated Shan States.—Under section 6 of the Federated Shan Laws and Criminal Justice Order, 1926, and the Schedule thereto, in sub-section (2) for the words "or, in a Presidency-town or Rangoon, the Commissioner of Police," the words "or an Assistant Superintendent specially empowered in this behalf by the Local Government" shall be substituted. Similarly in sub-section (3) and (4), for "Commissioner of Police" the words "an Assistant Superintendent" shall be substituted.

Sub-section (5).

Not repairable by the Government or a local authority.—The right to break up streets which belong to the Government or a local authority is the main object for which statutory powers are granted. The case of roads in private owner's hands is, of course, a totally different matter, and the owner may be able to advance valid objections against the grant of compulsory powers. If consent to break up such a road is withheld, and compulsory powers are refused, a requisition to supply energy or lay mains therein (Schedule, Clauses V, VI and VIII) would not be binding on the licensee. Compulsory powers may now be given either in the license or by a subsequent order.

Except such streets, railways or tramways.—In Great Britain it is customary to confer power in the Provisional Order (subject to confirmation by Parliament) to break up streets not repairable by a local authority and railways and tramways. Due notice is given to the owners, who have a *locus standi* to object. As regards railways the power is generally confined to level crossings, and in all cases the exact nature of the proposed interference must be specified. Under the Act of 1903, assuming the consent of the interested party to be withheld, the sanction of Government, after the grant of the license, was necessary. The powers granted in licenses under the present provision should be for specific work, fully described. Where powers to break up streets not repairable by the Government or a local authority are not conferred by the license they can be obtained subsequently either by the written consent of the person by whom the street is repairable or, failing such consent,

PART II.

Sec. 12.

with the written consent of the Local Government ; in the latter case due notice must have been given by the licensee, as set forth in the proviso.

Railways.—See notes on sub-sections (1) and (2) of this section, *supra*.

Until the licensee has given notice.—Two cases are dealt with in the preceding note :

(a) Where power to break up is sought in the draft license. Notice is then given in the advertisement of the application for the license, as the rules direct.

(b) Where the licensee wishes subsequently to break up streets of the nature here dealt with. A further advertisement is then necessary ; see rule 21. As to the manner of giving notice, see section 53 (2).

Sec. 13.

Notice of
new works.

13. (1) Where the exercise of any of the powers of a licensee in relation to the execution of any works involves the placing of any works in, under, over, along or across any street, part of a street, railway, tramway, canal, or waterway, the following provisions shall have effect, namely :—

(a) not less than one month before commencing the execution of the works (not being a service-line immediately attached, or intended to be immediately attached, to a distributing main, or the repair, renewal or amendment of existing works of which the character or position is not to be altered), the licensee shall serve upon the person responsible for the repair of the street or part of a street (hereinafter in this section referred to as “the repairing authority”) or upon the person for the time being entitled to work the railway, tramway, canal or waterway (hereinafter in this section referred to as “the owner”), as the case may be, a notice in writing describing the proposed works, together with a section and plan thereof on a scale sufficiently large to show clearly the details of the proposed works, and not in any case smaller than one inch to eight feet vertically and sixteen inches to the mile horizontally, and intimating the manner in which, and the time at which, it is proposed to interfere with or alter any existing works, and shall, upon being required to do so by the repairing authority or owner, as the case may be, from time to time give such further information in relation thereto as may be desired ;

(b) if the repairing authority intimates to the licensee that it disapproves of such works, section or plan, or approves thereof subject to amendment, the licensee may, within one week of receiving such

- intimation, appeal to the Local Government, whose decision, after considering the reasons given by the repairing authority for its action, shall be final ;
- (c) if the repairing authority fails to give notice in writing of its approval or disapproval to the licensee within one month, it shall be deemed to have approved of the works, section and plan, and the licensee, after giving not less than forty-eight hours' notice in writing to the repairing authority, may proceed to carry out the works in accordance with the notice and the section and plan served under clause (a) ;
- (d) if the owner disapproves of such works, section or plan, or approves thereof subject to amendment, he may, within three weeks after the service of the notice under clause (a), serve a requisition upon the licensee demanding that any question in relation to the works or to compensation, or to the obligations of the owners to others in respect thereof, shall be determined by arbitration, and thereupon the matter shall, unless settled by agreement, be determined by arbitration ;
- (e) where no requisition has been served by the owner upon the licensee under clause (d), within the time named, the owner shall be deemed to have approved of the works, section and plan, and in that case, or where after a requisition for arbitration the matter has been determined by arbitration, the works may, upon payment or securing of compensation, be executed according to the notice and the section and plan, subject to such modifications as may have been determined by arbitration or agreed upon between the parties ;
- (f) where the works to be executed consist of the laying of any underground service line immediately attached, or intended to be immediately attached, to a distributing main, the licensee shall give to the repairing authority or the owner, as the case may be, not less than forty-eight hours' notice in writing of his intention to execute such works ;
- (g) where the works to be executed consist of the repair, renewal or amendment of existing works of which the character or position is not to be altered, the licensee shall, except in cases of emergency, give to

the repairing authority, or to the owner, as the case may be, not less than forty-eight hours' notice in writing of his intention to execute such works, and, on the expiry of such notice, such works shall be commenced forthwith and shall be carried on with all reasonable despatch, and, if possible, both by day and by night until completed.

(2) Where the licensee makes default in complying with any of these provisions, he shall make full compensation for any loss or damage incurred by reason thereof, and, where any difference or dispute arises as to the amount of such compensation, the matter shall be determined by arbitration.

(3) Notwithstanding anything in this section, the licensee may, in case of emergency due to the breakdown of an underground electric supply-line, after giving notice in writing to the repairing authority or the owner, as the case may be, of his intention to do so, place an aerial line without complying with the provisions of sub-section (1) :

Provided that such aerial line shall be used only until the defect in the underground electric supply-line can be made good, and in no case (unless with the written consent of the Local Government) for a period exceeding six weeks, and shall be removed as soon as may be after such defect is removed.

Cf. Indian Elec. Act, 1903, s. 13.

This section gives the procedure in cases of new works, whether in streets belonging to the Government, a local authority or any other person. [See notes on section 12 (5).] In some cases, however (e.g., transmission of power lines across country), simpler procedure is provided for by section 51 (*q.v.*).

Sub-section (1).

It will be seen that clauses (a) to (e) deal with the subject of new works generally, clause (a) laying down the procedure of the licensee, clauses (b) and (c) dealing with new works in streets, and clauses (d) and (e) with new works concerning railways, tramways, canals and waterways. Clauses (f) and (g) refer to two special cases which are excluded from the operation of clause (a).

Clause (a). Not being a service-line . . . or the repair, renewal or amendment of existing works.—See clauses (f) and (g).

The "repairing authority" may be either the Local Government, a local authority, or any person responsible for the repair of a street: the "owner" may be any of these last mentioned or may be a company. The use of these two terms saves much repetition. It will be observed that clause (a) lays down the licensee's duty; clauses (b) and (c) refer only to the action of the "repairing authority," and clauses (d) and (e) only to that of the "owner." Clauses (f) and (g) apply to both.

Ibid. Scale of Plans.—The scale must be “sufficiently large” and in any case not less than what is here laid down. Such a scale may not be available in published maps. A similar position occurred in the Schedule, clause XVI (2), but was there amended by the Indian Electricity (Amendment) Act, 1922, which added a proviso that “no scale shall be required unless maps of the locality on that scale, are for the time being available to the public.” A similar amendment here would improve the section; and the same may be said of section 14 (2) (a) *post*.

Line 21. *Existing works.*—i.e., of other persons, viz., the “owner” or “operator.”

Clause (b). *The Local Government.*—This function may be delegated to an Electric Inspector (section 55).

Clauses (d) and (e). *Arbitration.*—See Introduction, paragraph 23, also section 52 of the Act.

Sub-section (2).

Compensation.—See Introduction, paragraph 15, and section 19.

Arbitration.—See Introduction, paragraph 23, and section 52.

The liability to pay compensation does not render the offender immune from penalties for default; see section 48.

Sub-section (3).

This provision, in localities liable to severe storms and upheavals, is likely to prove useful. The six weeks for which a temporary aerial line may be used should prove sufficient, but an extension of the period is permissible. A simpler plan, however, would be to conform to the requirements of sub-section (1), which could generally be effected within six weeks.

Consent of the Local Government.—This function may be delegated to an Electric Inspector (section 55).

14. (1) Any licensee may alter the position of any pipe (not forming, in a case where the licensee is not a local authority, part of a local authority's main sewer), or of any wire under or over any place which he is authorized to open or break up, if such pipe or wire is likely to interfere with the exercise of his powers under this Act; and any person may alter the position of any electric supply-lines or works of a licensee under or over any such place as aforesaid, if such electric supply-lines or works are likely to interfere with the lawful exercise of any powers vested in him.

Sec. 14.

Alteration of
pipes or
wires.

(2) In any such case as aforesaid the following provisions shall, in the absence of an agreement to the contrary between the parties concerned, apply, namely:—

- (a) not less than one month before commencing any alteration, the licensee or other person desiring to make the same (hereinafter in this section referred to as “the operator”) shall serve upon the person for the time being entitled to the pipe, wire, electric supply-lines or works, as the case may be (hereinafter in this section referred to as “the owner”),

PART II.

Sec. 14.

- a notice in writing, describing the proposed alteration, together with a section and plan thereof on a scale sufficiently large to show clearly the details of the proposed works, and not in any case smaller than one inch to eight feet vertically and sixteen inches to the mile horizontally and intimating the time when it is to be commenced, and shall subsequently give such further information in relation thereto as the owner may desire ;
- (b) within fourteen days after the service of the notice, section and plan upon the owner, the owner may serve upon the operator a requisition to the effect that any question arising upon the notice, section or plan shall be determined by arbitration, and thereupon the matter shall, unless settled by agreement, be determined by arbitration ;
 - (c) every arbitrator to whom a reference is made under clause (b) shall have regard to any duties or obligations which the owner is under, and may require the operator to execute any temporary or other works so as to avoid as far as possible interference therewith ;
 - (d) where no requisition is served upon the operator under clause (b) within the time named, or where such a requisition has been served and the matter has been settled by agreement or determined by arbitration, the alteration may, upon payment or securing of any compensation accepted or determined by arbitration, be executed in accordance with the notice, section and plan and subject to such modifications as may have been determined by arbitration or agreed upon between the parties ;
 - (e) the owner may, at any time before the operator is entitled to commence the alteration, serve upon the operator a statement in writing to the effect that he desires to execute the alteration himself and requires the operator to give such security for the repayment of any expenses as may be agreed upon or, in default of agreement, determined by arbitration ;
 - (f) where a statement is served upon the operator under clause (e), he shall, not less than forty-eight hours before the execution of the alteration is required to be commenced, furnish such security

- and serve upon the owner a notice in writing intimating the time when the alteration is required to be commenced, and the manner in which it is required to be made; and thereupon the owner may proceed to execute the alteration as required by the operator;
- (g) where the owner declines to comply, or does not, within the time and in the manner prescribed by a notice served upon him under clause (f), comply with the notice, the operator may himself execute the alteration;
 - (h) all expenses properly incurred by the owner in complying with a notice served upon him by the operator under clause (f) may be recovered by him from the operator.

(3) Where the licensee or other person desiring to make the alteration makes default in complying with any of these provisions, he shall make full compensation for any loss or damage incurred by reason thereof, and, where any difference or dispute arises as to the amount of such compensation, the matter shall be determined by arbitration.

Cf. Indian Elec. Act, 1903, s. 14.

This section provides for the alteration of pipes or wires either by the licensee, as regards any other person's pipes or wires, or *vice versa*. The "owner" and "operator" may, *mutatis mutandis*, be either the licensee, the Local Government, a local authority, or a gas, water, telephone or electric supply company, or any other person whatsoever who has the duty of repairing or the right of opening up streets.

Sub-section (2).

Clause (a). Scale of plans.—See note to section 13 (1) (a).

Clauses (b), (c), (d) and (e). Arbitration.—See Introduction, paragraph 23, and section 52.

Clause (c). Duties and obligations.—These may be statutory (e.g., the maintenance of the supply of water, gas or electricity) or merely a matter of contract or agreement.

Clause (h). Expenses.—See Introduction, paragraph 28, as to recovery of expenses or other sums.

Sub-section (3).

One arbitration case under this section and section 15 came before the Appellate side in the Bombay High Court in 1914, viz. : In the matter of the arbitration between the *Bombay Gas Co.* and the *Bombay Electric Supply and Traction Co.*, reported in the *Times of India*, 22nd and 30th March, 1914. The arbitrators were appointed in connection with certain damages claimed by the Gas Co. by reason of the Electric Co. having laid a cable in such a way as to cut off the Gas Co. from reasonable access to its own main pipes. The gas main had been in existence for several years. The Electric Co. sent and the Gas Co. received a written notice that the Callender Cable Co. were about to lay electric cables. These were duly laid in troughing, diagonally across and over the gas main. No responsible representative of the Gas Co. attended

PART II.

Sec. 14.

while the work was proceeding; and the arbitrators found that the work in dispute was neither executed to the reasonable satisfaction of the Gas Co. nor was it to be deemed to have been so executed. The Gas Co. only ascertained the position of the cables when they wished to lay a larger main. The dispute arose as to the liability of the Electric Co. to pay the expenses incurred by the Gas Co. in diverting their main as the cable was laid on the top of, parallel to, and so as to be liable to touch the gas main and to make it inaccessible. The questions referred by the arbitrators to the Court were the following two, *viz.*: (1) whether upon the true construction of Act LX of 1910 the damage claimed to have been suffered by the Gas Co. was subject to compensation under section 19 of that Act; and (2) whether by reason of the Gas Co. not having availed themselves of the provisions of section 14 of the said Act they were entitled to any remedy in respect of the position of the cables. The Court answered the first question in the affirmative, while pointing out that the question whether the minimum of damage, etc., had been done was one of fact for the arbitrators to settle. The second question was answered in the negative, although the form of the question was criticized. If the Gas Co. were bound to proceed under section 14 the Court pointed out that the Gas Co.'s case would be at an end; there could be no claim for damages of this nature by the operator against the owner under that section, for all acts done under the section are done by the operator or by the owner at his request and expense. It was therefore perfectly clear that the operator could not claim damages for acts of his own or done on his behalf and at his expense by the owner.

Compensation.—See Introduction, paragraph 15 and section 19.

Arbitration.—See Introduction, paragraph 23, and section 52.

Sec. 15.

Laying of electric supply-lines or other works near sewers, pipes or other electric supply-lines or works.

15. (1) Where—

- (a) the licensee requires to dig or sink any trench for laying down any new electric supply-lines or other works, near to which any sewer, drain, water-course or work under the control of the Local Government or of any local authority, or any pipe, syphon, electric supply-line or other work belonging to any duly authorized person, has been lawfully placed, or
- (b) any duly authorized person requires to dig or sink any trench for laying down or constructing any new pipes or other works, near to which any electric supply-lines or works of a licensee have been lawfully placed,

the licensee or such duly authorized person, as the case may be (hereinafter in this section referred to as “the operator”), shall, unless it is otherwise agreed upon between the parties interested or in case of sudden emergency, give to the Local Government or local authority, or to such duly authorized person, or to the licensee, as the case may be (hereinafter in this section referred to as “the owner”), not less than forty-eight hours’ notice in writing before commencing to dig or sink the trench, and the owner shall have the right

to be present during the execution of the work, which shall be executed to the reasonable satisfaction of the owner.

(2) Where the operator finds it necessary to undermine, but not to alter, the position of any pipe, electric supply-line or work, he shall support it in position during the execution of the work, and before completion shall provide a suitable and proper foundation for it where so undermined.

(3) Where the operator (being the licensee) lays any electric supply-line across, or so as to be liable to touch, any pipes, lines or service-pipes or service-lines belonging to any duly authorized person or to any person supplying, transmitting or using energy under this Act, he shall not, except with the written consent of such person and in accordance with section 34, sub-section (1), lay his electric supply-lines so as to come into contact with any such pipes, lines or service-pipes or service-lines.

(4) Where the operator makes default in complying with any of the provisions of this section, he shall make full compensation for any loss or damage incurred by reason thereof.

(5) Where any difference or dispute arises under this section, the matter shall be determined by arbitration.

(6) Where the licensee is a local authority, the references in this section to the local authority and to sewers, drains, water-courses or works under its control shall not apply.

Cf. Indian Elec. Act, 1903, s. 15.

Sub-section (1).

This section provides for giving notice in cases where works are to be carried out near pre-existing works, either by a licensee [Clause (a)] or by any other duly authorized person [Clause (b)]. The "owner" and "operator" may be either the licensee or the "duly authorized person" according to circumstances, and the phrase "duly authorized person" may mean the Local Government, the local authority, or a gas-, water-, telephone-, electric-supply or other company, or a private individual.

In both clauses (a) and (b) the words "for laying down any new electric supply-lines or other works" might possibly give rise to misunderstanding. The word "new" qualifies both "electric supply-lines" and "other works," the latter words meaning other works of the same general description, in accordance with the *eiusdem generis* rule of construction. If the intention had been to make the section applicable to any works, whether new or existing, the wording would have been "for laying down any new electric supply-lines, or for other works." The section is therefore clearly inapplicable to the case of digging a trench for the purpose of repairing an old pipe or an existing work of any kind. The provisions of section 13 (1) (g) apply to cases of repairs.

Sub-section (3).

The corresponding clause of the Act of 1903, having the same number, may be compared. In that clause two different matters were brought together, namely, the *mechanical* contact between electric supply-lines and pipes, etc., and the use of the

PART II.

Sec. 15.

latter as *electrical* conductors; i.e., the use of earthed returns. The intention then was, as it now is, that earthed returns should only be used for electric tramways or in special circumstances; in this the law follows the recommendations laid down by Lord Cross's Committee of 1893 on "Electric Powers (Protective Clauses)" as subsequently affirmed by the Joint Parliamentary Committee of 1898 on "Electrical Energy (Generating Stations and Supply)." The reference to employing pipes, etc., as conductors has now been omitted in this clause, which deals entirely with mechanical, as distinct from electrical, contact; if a licensee's lines are in contact with the pipes belonging to some other person, with his consent, the provisions of section 34 as to the electrical connection of circuits with earth must nevertheless be complied with.

Sub-section (4).

Compensation.—See Introduction, paragraph 15, and section 19.

Sub-section (5).

Arbitration.—See Introduction, paragraph 23, and section 52. A case of arbitration which came before the High Court in Bombay, in which both this section, sub-section (3) and section 14 were involved, is referred to in the notes on section 14, sub-section, (3) *supra*.

Sec. 16.

Streets,
railways,
tramways,
sewers,
drains or
tunnels
broken up to
be reinstated
without
delay.

16. (1) Where any person, in exercise of any of the powers conferred by or under this Act, opens or breaks up the soil or pavement of any street, railway or tramway, or any sewer, drain or tunnel, he shall—

- (a) immediately cause the part opened or broken up to be fenced and guarded;
- (b) before sunset cause a light or lights, sufficient for the warning of passengers, to be set up and maintained until sunrise against or near the part opened or broken up;
- (c) with all reasonable speed fill in the ground and reinstate and make good the soil or pavement, or the sewer, drain or tunnel, opened or broken up, and carry away the rubbish occasioned by such opening or breaking up; and,
- (d) after reinstating and making good the soil or pavement, or the sewer, drain or tunnel, broken or opened up, keep the same in good repair for three months and for any further period, not exceeding nine months, during which subsidence continues.

(2) Where any person fails to comply with any of the provisions of sub-section (1), the person having the control or management of the street, railway, tramway, sewer, drain or tunnel in respect of which the default has occurred, may cause to be executed the work which the defaulter has delayed or omitted to execute, and may recover from him the expenses incurred in such execution.

(3) Where any difference or dispute arises as to the amount of the expenses incurred under sub-section (2), the matter shall be determined by arbitration.

Cf. Indian Elec. Act, 1903, s. 16.

Sub-section (1).

Where any person.—This section is not limited in its operation to licensees. It applies alike to the “owner,” the “repairing authority,” the “operator” and the “duly authorized person” referred to in sections 13 to 15. It applies also to a licensee who is breaking up streets outside the area of supply in virtue of powers conferred upon him under section 27 or 51, and to the non-licensee on whom the power to break up streets has been conferred under section 29.

Sub-section (2).

Fails to Comply.—Where a person employs a contractor to do work in a place where the public are in the habit of passing, which work will, unless precautions are taken, cause danger to the public, an obligation is thrown upon the person who orders the work to be done to see that the necessary precautions are taken; and if they are not taken he will be responsible for any injury arising therefrom. *Penny v. Wimbledon Urban District Council*, (1899), 2 Q.B. 72, quoted in Will’s “The Law Relating to Electric Lighting, Power and Traction,” by Dalton, 5th edition, p. 183. It has also been held in Great Britain that where a company left a road in a condition which amounted to a public nuisance, they were liable in damages to the plaintiff notwithstanding their liability to penalties. *Goodson v. Sunbury Gas Consumers Company*, (1896), 75 L.T. 251. (*Ibid.*, p. 189.)

Recover . . . the expenses.—See Introduction, paragraph 28. A defaulting licensee, in addition to being charged with the cost of the work, which is recoverable under section 54, is also liable to penalties (sections 47 and 48).

Sub-section (3).

Arbitration.—See Introduction, paragraph 23, and section 52.

17. (1) A licensee shall, before laying down or placing, within ten yards of any part of any telegraph-line, any electric supply-line or other works (not being either service-lines or electric supply-lines for the repair, renewal or amendment of existing works of which the character or position is not to be altered), give not less than ten days’ notice in writing to the telegraph-authority, specifying—

Sec. 17.
Notice to
telegraph-
authority.

- (a) the course of the works or alterations proposed,
- (b) the manner in which the works are to be utilized,
- (c) the amount and nature of the energy to be transmitted, and
- (d) the extent to, and manner in, which (if at all) earth returns are to be used;

PART II.

Sec 17.

and the licensee shall conform with such reasonable requirements, either general or special, as may be laid down by the telegraph-authority within that period for preventing any telegraph-line from being injuriously affected by such works or alterations :

Provided that, in case of emergency (which shall be stated by the licensee in writing to the telegraph-authority) arising from defects in any of the electric supply-lines or other works of the licensee, the licensee shall be required to give only such notice as may be possible after the necessity for the proposed new works or alterations has arisen.

(2) Where the works to be executed consist of the laying or placing of any service-line, the licensee shall, not less than forty-eight hours before commencing the work, serve upon the telegraph-authority a notice in writing of his intention to execute such works.

Cf. Indian Elec. Act, 1903, s. 27 (1).

Further provisions respecting telegraphs will be found in s. 32.

Sub-section (1).

Section 27 of the Act of 1903 has been divided up in the present Act, the second and subsequent sub-sections being transferred to Part IV (see section 32) while the first sub-section is placed here in its logical position, as dealing with works. The repealed Act prescribed a month's notice to the telegraph-authority, and it made that authority's previous sanction a condition precedent to the carrying out of the works : the present section enacts that except in cases of emergency, as mentioned in the proviso to sub-section (1), ten days' notice is to be given ; and, as the licensee must still conform with " the reasonable requirements " of the telegraph-authority, the written consent of that authority is superfluous and has been omitted as merely likely to cause unnecessary delays. Service-lines and repairs are excluded from the operation of the first sub-section, but the former are specially dealt with in sub-section (2). Cf. also section 13, clauses (f) and (g). Some merely superfluous words, qualifying " service-line " have been omitted here, under the Indian Electricity (Amendment) Act, 1922, although left in section 13 (1) (f) as that section did not require specific amendment.

Clause (d). Earth Returns.—These are fully discussed in paragraph 36 of the Introduction. See also section 34, *post*.

Sub-section (2).

Any service-line.—The wording has been somewhat modified by the Indian Electricity (Amendment) Act, 1922 ; and the qualifying word " underground " has been omitted. Previously no notice had to be given in the case of overhead service lines.

Sec. 18.
Aerial lines.

r8. (1) Save as provided in section 13, sub-section (3), nothing in this Part shall be deemed to authorize or empower a licensee to place any aerial line along or across any street, railway, tramway, canal or waterway unless and

until the Local Government has communicated to him a general approval in writing of the methods of construction which he proposes to adopt :

Provided that the communication of such approval shall in no way relieve the licensee of his obligations with respect to any other consent required by or under this Act.

(2) Where any aerial line has been placed or maintained by a licensee in breach of the provisions of sub-section (7), the Local Government may require the licensee forthwith to remove the same, or may cause the same to be removed and recover from the licensee the expenses incurred in such removal.

(3) Where any tree standing or lying near an aerial line, or where any structure or other object which has been placed or has fallen near an aerial line subsequently to the placing of such line, interrupts or interferes with, or is likely to interrupt or interfere with, the conveyance or transmission of energy, or the accessibility of any works, a Magistrate of the first class or, in a Presidency-town or Rangoon, the Commissioner of Police, may, on the application of the licensee, cause the tree, structure or object to be removed or otherwise dealt with as he thinks fit.

(4) When disposing of an application under sub-section (3), the Magistrate or Commissioner of Police, as the case may be, shall, in the case of any tree in existence before the placing of the aerial line, award to the person interested in the tree such compensation as he thinks reasonable, and such person may recover the same from the licensee.

Explanation.—For the purposes of this section, the expression “ tree ” shall be deemed to include any shrub, hedge, jungle-growth or other plant.

Cf. Indian Elec. Act, 1903, s. 17. See Introduction, paragraph 14.

The provisions of sub-sections (3) and (4) and of the “ *Explanation* ” are extended to railway works by section 29-A, to which reference should be made.

The functions of the Local Government under this section may be delegated to an Electric Inspector (section 55).

Sub-section (1).

This section is of considerable importance. The whole question as to the use of aerial lines has been dealt with on general lines in the Introduction, paragraph 14. Under section 13 of the Calcutta Electric Lighting Act of 1895, the “ express consent ” of Government was necessary to the erection of every separate aerial line of a system, no matter where placed ; after obtaining that consent the licensee had further to obtain the consent of the party responsible for the repairing of the street, possibly Government again. This procedure was wasteful in time and aggravating alike to the licensee and the consumer, and it served no useful purpose. Under section 17

PART II.
—
Sec. 18.

of the Act of 1903 the proposed system of constructing aerial lines was to be considered by Government at the start, either before or after the license was granted, and it could then be approved or modified. The present Act follows in this respect. Each individual line erected must comply with the rules, and while approving the system it is open to Government to enforce other conditions considered requisite for public safety or convenience, although in the Author's opinion this is generally unnecessary.

Having once obtained general approval of the system no further consent of Government is required unless the street is repairable by it (in which case a further notice must be given, *vide* section 13), though the licensee's obligations as regards other parties remain unchanged. It will be noticed that though all undertakings other than strictly private ones will come under either Part II or Part III of this Act, the consent to the erection of aerial lines applies only to licensed undertakings. So far as factories, and most other unlicensed undertakings, are concerned the rules under Part IV are alone sufficient protection; but as regards licensed undertakings it is only right that each system should be examined on its merits, in detail, and not only in the particulars to which general rules are applicable. The map see Frontispiece - and the comments on it in paragraph 14 of the Introduction, may be referred to.

Sub-section (2).

Recover . . . the expenses. See Introduction, paragraph 28. A defaulting licensee, in addition to being charged with the cost of the work, which is recoverable under section 54, is also liable to penalties under section 48.

Sub-section (3).

This and the following sub-section were taken in 1910 from the Indian Telegraph Act, 1885, as amended by Act XI of 1888: see Introduction, paragraph 12. Further changes made in 1922 are incorporated.

Any tree.—See "Explanation" at end of section.

Any structure or other object.—It has been often found that aerial lines which it is desirable to construct are frequently interfered with, either before or after erection, by other objects or structures besides trees. By the Indian Electricity (Amendment) Act, 1922, the words "or where any structure or other object which has been placed or has fallen near an aerial line subsequently to the placing of such line" were added; and power is given to remove these also. Scaffolding, extensions of verandahs, and other objects of the sort are commonly involved; and they are dangerous to the persons who put them up as well as to the supply generally.

Or the accessibility of any works.—These words were also added in 1922, as cases occurred where the licensee was unable to gain access to his works for inspection and repair, owing either to jungle-growth or artificial objects.

Sub-section (4).

Compensation.—See Introduction, paragraph 15, and section 19.

Recover the same.—See Introduction, paragraph 28, and also section 54 of the Act.

"*Explanation.*"—The explanation of the meaning of the term "tree" was added in 1922, after an examination of other existing definitions. On cross-country overhead transmission lines the growth of jungle and creepers has proved a considerable difficulty both to proper working and to access to "works," which by definition in section 2 (n) include electric supply-lines.

Sec. 19.
Compensation
for
damage.

19. (1) A licensee shall, in exercise of any of the powers conferred by or under this Act, cause as little damage, detriment and inconvenience as may be, and shall make

full compensation for any damage, detriment or inconvenience caused by him or by any one employed by him.

(2) Save in the case provided for in section 12, sub-section (3), where any difference or dispute arises as to the amount or the application of such compensation, the matter shall be determined by arbitration.

(*Cf. Indian Elec. Act, 1903, s. 18. See Introduction, paragraph 15.*)

Sub-section (1).

As noted under preceding sections, the payment of compensation does not relieve the person concerned of his liability to penalties—see section 48. As to “nuisance,” see paragraph 15 of the Introduction. This section differs materially from section 17 of the British Act of 1882, where the words “in relation to the execution of works” exist. Consequently in Great Britain compensation is not recoverable under that section for damages caused by the user of the works when constructed, but this limitation does not appear to apply in India.

Damage.—As to accidents, see section 33, *post*.

Sub-section (2).

Arbitration.—See Introduction, paragraph 23, and section 52.

Supply.

Sections 19-A to 27.

See Introduction, paragraphs 16 to 18.

In the Act of 1903 there was no subdivision by means of italic headings, and among the sections now collected under the heading of “supply” were interspersed four “protective” sections, Nos. 26 to 29. These were transferred to the beginning of Part IV, in 1910, where they have become sections 31 to 34. Section 22 of the Act of 1903 was also transferred to clause VI (1) of the Schedule, where it is now the third proviso. Most of the section numbers have been altered, and a reference is given to the original section numbers in all cases.

19-A. For the purposes of this Act, the point at which the supply of energy by a licensee to a consumer shall be deemed to commence shall be determined in such manner as may be prescribed. Sec. 19-A.
Point where
supply is
delivered.

This section was added by the Indian Electricity (Amendment) Act, 1922. The definition of the precise point where a supply begins is less easy than its determination in practice. In most cases, though by no means in all, a meter is used to measure the supply, and this would naturally be the point of delivery; but the meter will only be connected to one wire of the circuit in most cases, and a doubt arises as to the other wire. Practice has differed in various parts of India, and disputes have arisen where damage has been done by fire at or near the point of supply. The matter is discussed in paragraph 16 of the Introduction. Under rule 38 the licensee must insert a cut-out in each service line, as near as possible to the point of entry, and this offers a second solution. The actual point is not laid down in the Act, but is “prescribed” by rule 31. In this connection reference may be made to the notes on the case *Gas Light and Coke Co. v. South Metropolitan Gas Co.*, 62 L.T. 126; 5 T.L.R. 731; which will be found in the notes to section 42 of the present Act, *infra*. See also paragraph 33 of the Introduction, p. 156.

PART II.

Sec. 20.

Power for
licensee to
enter
premises and
to remove
fittings or
other
apparatus of
licensee.

20. (1) A licensee or any person duly authorized by a licensee may, at any reasonable time, and on informing the occupier of his intention, enter any premises to which energy is or has been supplied by him, for the purpose of —

- (a) inspecting and testing the electric supply-lines, meters, fittings, works and apparatus for the supply of energy belonging to the licensee; or
- (b) ascertaining the amount of energy supplied or the electrical quantity contained in the supply; or
- (c) removing, where a supply of energy is no longer required, or where the licensee is authorized to take away and cut off such supply, any electric supply-lines, meters, fittings, works or apparatus belonging to the licensee.

(2) A licensee or any person authorized as aforesaid may also, in pursuance of a special order in this behalf made by the District Magistrate or, in a Presidency-town or Rangoon, by the Commissioner of Police, and after giving not less than twenty-four hours' notice in writing to the occupier, enter any premises to which energy is or has been supplied or is to be supplied, by him, for the purpose of examining and testing the electric wires, fittings, works and apparatus for the use of energy belonging to the consumer.

(3) Where a consumer refuses to allow a licensee or any person authorized as aforesaid to enter his premises in pursuance of the provisions of sub-section (1) or sub-section (2), or, when such licensee or person has so entered, refuses to allow him to perform any act which he is authorized by those sub-sections to perform, or fails to give reasonable facilities for such entry or performance, the licensee may, after the expiry of twenty-four hours from the service of a notice in writing on the consumer, cut off the supply to the consumer for so long as such refusal or failure continues, but for no longer.

Cf. Indian Elec. Act, 1903, s. 19.

Sub-section (1).

The occupier.—In the Act of 1903 the words “the consumer” were used here. The term was defined to include any person “entitled to be supplied” with energy and was therefore somewhat too wide, including as it did every person within the area of supply. According to the definition in the present Act the applicant for a supply only becomes a consumer when his premises are connected to the supply by a service-line, and as the licensee must be able to examine and test his service-lines, etc., beforehand, the word “occupier” has been substituted in this clause. It would have been better, in point of fact, if the words “consumer and occupier” had been

used, though involving two notices sometimes, to meet the case where the consumer does not live on the premises and the occupier is absent. If this change were made, a consequential and similar alteration would be required in the opening words of sub-section (3). Again, in the fourth line, the words "or is to be supplied" should be added after the word "him," as already in sub-section (2), seeing that entry is just as necessary before as after supply has begun. The omission was a mere oversight. Section 47 enacts a penalty for refusal to comply.

Clause (a). Inspecting and testing.—See remarks in paragraph 16 of the introduction, under the marginal heading of "Refusing to supply."

Clause (b).—See section 23 (3), *post*.

Clause (c). Authorized to cut off supply.—See notes in paragraph 16 under the marginal heading "Cutting off supply"; see also references in the Index under "Supply. Cutting Off from Consumers."

Ibid.—The word "meters," accidentally omitted in the Act of 1910, was inserted in 1922.

Sub-section (2).

The wires, fittings, works and apparatus.—The licensee may wish to examine an installation to see that the consumer is not infringing the Act or rules—see section 21 (1) and its proviso, section 23 (2), section 26 (3) and (5), section 34 (1), sections 39, 40, 44, 46 and Schedule, Clause VI (1), second and third provisos: see also the rules in the Appendix I.

Modification in the Federated Shan States.—See note under this heading on section 12, sub-section (2). The same change is made here by substituting "an Assistant Superintendent."

Sub-section (3).

This was added by the Indian Electricity (Amendment) Act, 1922, as licensees were frequently prevented from performing their lawful functions by refusal of access. In these circumstances, cutting off the supply is the only effectual remedy. See also Rule 108, as to "Mode of entry," in the Appendix.

21. (7) A licensee shall not be entitled to prescribe any special form of appliance for utilizing energy supplied by him, or, save as provided by section 23, sub-section (2), or by section 26, sub-section (7), in any way to control or interfere with the use of such energy:

Sec. 21.
Restrictions
on licensee's
controlling or
interfering
with use of
energy.

Provided that no person may adopt any form of appliance, or use the energy supplied to him, so as unduly or improperly to interfere with the supply by the licensee of energy to any other person.

(2) Subject to the provisions of sub-section (1), a licensee may, with the previous sanction of the Local Government, given after consulting the local authority, where the licensee is not the local authority, make conditions not inconsistent with this Act or with his license or with any rules made under this Act, to regulate his relations with persons who are or intend to become consumers, and may with the like sanction given after the like consultation add to or alter or amend

PART II.

Sec. 21.

any such conditions ; and any conditions made by a licensee without such sanction shall be null and void :

Provided that any such conditions made before the 23rd day of January, 1922, shall, if sanctioned by the Local Government on application made by the licensee before such date as the Local Government may, by general or special order, fix in this behalf, be deemed to have been made in accordance with the provisions of this sub-section.

(3) The Local Government may, after the like consultation, cancel any condition or part of a condition previously sanctioned under sub-section (2) after giving to the licensee not less than one month's notice in writing of its intention so to do.

(4) Where any difference or dispute arises as to whether a licensee has prescribed any appliance or controlled or interfered with the use of energy in contravention of sub-section (1), the matter shall be either referred to an Electric Inspector and decided by him or, if the licensee or consumer so desires, determined by arbitration.

Cf. Indian Elec. Act, 1903, s. 20. See Introduction, paragraph 16.

Sub-section (1).

Save as provided.—The first of the provisions mentioned in line 3 prohibits a consumer, except with the consent of the licensee, from using energy supplied to him under one method of charging in a manner for which a higher method of charge is in force. The second refers to the placing of additional meters or apparatus on a consumer's premises, over and above the meter by which the "value of the supply" is primarily ascertained.

Unduly or improperly to interfere.—See Schedule, clause VI (1), second proviso, sub-heads (b) and (c). Disputes occur from time to time as to "undue or improper interference" on the part of the consumer in his use of energy, especially where the use of motors is concerned. A motor placed on one side of a 3-wire system and not provided with a good starting resistance, intelligently used, is a case in point ; the use of any large motor on a very variable load is another ; the indiscreet use of main switches in large installations, to save the trouble of going the round of branch switches, is a third. What would cause interference on a small system might be quite innocuous on a large one. Under sub-section (4) all differences or disputes under the substantive part of the section are to be decided by an Electric Inspector or, if the licensee or consumer so desires, determined by arbitration ; while differences and disputes as to the matters here mentioned, concerning the proviso, are to be settled by the Electric Inspector under clause VI (3) of the Schedule. The licensee cannot refuse to give a supply under this clause on the grounds that there may be interference ; energy must be in use, and proved as a matter of fact to interfere.

The note on section 23 (2) should also be read.

Sub-sections (2) and (3).

Conditions . . . to regulate.—These two sub-sections were added by the Indian Electricity (Amendment) Act, 1922, to enable the licensee to issue what amount to bye-laws ; the matter has been discussed in paragraph 16 of the Introduction. A model form of "Conditions" will be found in Appendix II. At the date mentioned

in the proviso, the pre-existing "rules" issued by nearly all licensees had to be recast, as they were mostly inconsistent in one way or another with the Act or the rules, or the schedule to the Act, which is part of every license. The onus is on the Local Government of only sanctioning conditions which are *intra vires*. "Written contracts" for a supply [Sched. cl. V (1) (a) and VI (1) (a)] are obviously not "conditions of supply" under this section and do not concern the Government so long as they are legal.

PART II.

Sec. 21.

22. Where energy is supplied by a licensee, every person within the area of supply shall, except in so far as is otherwise provided by the terms and conditions of the license, be entitled, on application, to a supply on the same terms as those on which any other person in the same area is entitled in similar circumstances to a corresponding supply :

Sec. 22.

Obligation on licensee to supply energy.

Provided that no person shall be entitled to demand, or to continue to receive, from a licensee a supply of energy for any premises having a separate supply unless he has agreed with the licensee to pay to him such minimum annual sum as will give him a reasonable return on the capital expenditure, and will cover other standing charges incurred by him in order to meet the possible maximum demand for those premises, the sum payable to be determined in case of difference or dispute by arbitration.

Cf. Indian Elec. Act, 1903, s. 21. See Introduction, paragraphs 16 and 18.

Mere demand will not entitle an intending consumer to be supplied with energy. The conditions on which supply of energy must be given are set forth in Clauses VI to IX of the Schedule, and are discussed in the Introduction, paragraph 16; it is customary to require intending consumers to enter into a contract, and the licensee can demand one, with security [Clauses V (1) (a); VI (1), 1st proviso (a); and VIII (2) of the Schedule.]

Every person.—For definition of "person" in the General Clauses Act, see paragraph 29 of the Introduction.

Except in so far.—Probably the only case where the license would contain a provision, definitely putting aside the right of persons to demand a supply, would be in the case of undertakings generating energy from water-power limited in amount. Under these circumstances there would be no objection to limiting the permissible demand on the power station to such an amount as could be met, the right to demand a supply beyond this point being withheld; this has in fact been done. But there are other possible cases of a different nature. For example, an undertaking might be largely dependent for its revenue, in its early days, on the sale of power under contract to some particular consumer; in such circumstances the license might perhaps stipulate that no person would be entitled, *as of right*, to a supply on the same terms as this specific consumer. The question would then be one of facts, as to whether undue preference had been shown; see section 23, and paragraph 16 of the Introduction.

Provided.—This proviso, based on section 15 (since amended) of the (British) Electric Lighting Act, 1909, is inserted as the result of experience in Great Britain; disputes have occurred from owners of private plant demanding a connection to the mains equivalent to their maximum load, without having any intention of using the same except in case of breakdown. As the licensee must in such cases keep plant

PART II.

Sec. 22.

standing idle to meet this possible demand it is only right that a fair return should be payable to him as a *quid pro quo*. In a number of special Acts of local authorities in Great Britain a corresponding clause was inserted before the passing of the Act referred to above. The matter is discussed in paragraph 16 of the Introduction.

Sec. 23.

Charges for
energy to be
made
without
undue
preference.

23. (1) A licensee shall not, in making any agreement for the supply of energy, show undue preference to any person, but may, save as aforesaid, make such charges for the supply of energy as may be agreed upon, not exceeding the limits imposed by his license.

(2) No consumer shall, except with the consent in writing of the licensee, use energy supplied to him under one method of charging in a manner for which a higher method of charging is in force.

(3) In the absence of an agreement to the contrary, a licensee may charge for energy supplied by him to any consumer—

- (a) by the actual amount of energy so supplied, or
- (b) by the electrical quantity contained in the supply, or
- (c) by such other method as may be approved by the Local Government.

(4) Any charges made by a licensee under Clause (c) of sub-section (3) may be based upon, and vary in accordance with, any one or more of the following considerations, namely:—

- (a) the consumer's load factor, or
- (b) the power factor of his load, or
- (c) his total consumption of energy during any stated period, or
- (d) the hours at which the supply of energy is required.

Cf. *Indian Elec. Act, 1903, s. 23*. See *Introduction, paragraph 16*.

Sub-section (1).

Undue preference.—In an early work on the law of electricity, Bower and Webb said that “there is hardly any case conceivable in which the question of undue preference, as dealt with in the various railway cases, is at all likely to be applied to electrical undertakings.” This was written a good many years ago, and though the conditions of working of railways and electric supply may not be parallel there is doubtless room for disputes under this head. The matter is fully discussed in the Introduction, paragraph 18.

To any person.—“Person” includes any company or association (Sec. 3 General Clauses Act; paragraph 20, *supra*). The question arose in Bombay whether a licensee is entitled to charge different rates to different classes of premises (*e.g.*, hotels and

private houses) when the energy is used for the same purpose in both cases. It has not come before the Courts however.* The Annual Conference of Electric Inspectors discussed the point and resolved "That the nature of the premises, *qua* premises, has nothing whatever to do with the matter; that section 22 of the Act must be read with section 23, so that persons in the same area of supply are "entitled in similar circumstances to a corresponding supply" on the same terms. To charge different rates for different classes of premises, as such, is clearly illegal." To this opinion, which undoubtedly states the intention of the Act, it may be added that it is consumers in person, and not premises, who pay charges; see following notes.

Such charges . . . as may be agreed upon.—This must be read in connection with sub-sections (3) and (4) and section 22 and the note thereon; if such an agreement has been entered into, any other person, whose circumstances are similar, and who requires a corresponding supply, may demand it on the same terms—subject, of course, to any provision in the license to the contrary. It has long been the practice to allow discounts or rebates of one sort or another, and such rebates are clearly in the interest of the consumer as well as of the licensee. The wording of the last part of the corresponding sub-section in the Act of 1903 enumerated the circumstances under which rebates might be given; but these did not cover all systems of charging that have been devised in which rebates might equitably be allowed, and the provision was dropped in 1910. It has been revived in an altered form in sub-section (4), added by the Indian Electricity (Amendment) Act, 1922. As a concrete instance, it is a common practice all over the world for a supply authority (licensee in India) to give special rates to a large consumer taking in bulk a supply at high pressure for transformation on the premises, the supply being then used, at low or medium pressure, for *all* purposes. Such an agreement is clearly within the law, and to the general good, even though it gives the particular consumer a lower rate of charge (*e.g.*, for his lighting) than is made to other consumers whose circumstances are entirely different. *But* any other of those consumers by taking a "corresponding supply" in "similar circumstances" (*i.e.*, for transformation on his premises) can legally demand to come under the same special tariff for that supply.

The limits imposed by his license.—The license may authorize charges under (a), (b) or (c) of sub-section (2) and the limits imposed under (c) methods would not generally be comparable with the limits under a flat rate, (a) or (b). These words clearly apply to the limits attached to a particular tariff. If a consumer on some (c) tariff, which included a fixed periodical charge per kilowatt (or per horse-power, or per room) happened to use little or no energy for a time, he would still be bound to pay that fixed charge he had agreed to pay, even though the amount of it might be in excess of the legal charge for the number of units used if he had been on a flat rate tariff (a) or (b). See previous note upon the words "as may be agreed upon."

Sub-section (2).

The opening words of the corresponding clause in the Act of 1903, authorizing the charging of one rate for lighting purposes and other rates for purposes other than lighting, have been omitted; not with a view to making the practice illegal, but simply because lighting is no longer the predominant feature of electrical undertakings. The licensee may have as many scales of charges as he chooses, as is shown by the wording of clause XI of the Schedule; though from the consumer's point of view simplicity is the first consideration. It would be obviously unfair if a consumer who

* Report of the Second Annual Conference of Electric Inspectors and Electrical Engineers to Government, 1916; Superintendent Government Printing, India.

PART II.

Sec. 23.

were granted a special rate or rebate for some specific purpose were to take advantage of it for another purpose.

Sub-section (3).

This sub-section was contained in clause X of the Schedule to the Act of 1910 and was transferred to its present position by the Indian Electricity (Amendment) Act, 1922, because it does not deal with a matter which should be capable of variation in a license.

In the absence of an agreement to the contrary.—The consumer and licensee may come to any arrangement they choose, without the sanction of Government under sub-clause (c), but section 23 of the Act specifically forbids the showing of undue preference in any such agreement. See notes above on the words "Such charges, etc."

Of the methods of charging here enumerated the first is by means of a watt-hour meter; the second by ampere-hour meter, assuming the standard pressure. By the first method the consumer pays for what he gets; by the second, which is perhaps more general, he pays for what he would get if the pressure were perfectly steady at the standard value.

Methods approved by the Local Government under sub-head (c) are discussed in paragraph 18 of the Introduction, and where these involve the use of measuring or controlling apparatus—such as maximum demand indicators, time switches and the like—the provisions of section 26, sub-section (7) are applicable; the second proviso to that sub-section should be read.

Sub-section (4).

This sub-section is a return to the Act of 1903, where a similar provision existed, which was omitted in 1910. The Indian Electricity (Amendment) Act, 1922, reinserted it in the present form, chiefly in order to legalize charges based on load factor.

Sec. 24.
Discontinu-
ance of
supply to
consumer
neglecting
to pay
charge.

24. (1) Where any person neglects to pay any charge for energy or any sum, other than a charge for energy, due from him to a licensee in respect of the supply of energy to him, the licensee may after giving not less than seven clear days' notice in writing to such person and without prejudice to his right to recover such charge or other sum by suit, cut off the supply and for that purpose cut or disconnect any electric supply-line or other works, being the property of the licensee, through which energy may be supplied, and may discontinue the supply until such charge or other sum, together with any expenses incurred by him in cutting off and re-connecting the supply, are paid, but no longer.

(2) Where any difference or dispute has been referred under this Act to an Electric Inspector before notice as aforesaid has been given by the licensee, the licensee shall not exercise the powers conferred by this section until the Inspector has given his decision :

Provided that the prohibition contained in this sub-section shall not apply in any case in which the licensee has made a request in writing to the consumer for a deposit

with the Electric Inspector of the amount of the licensee's charges or other sums in dispute or for the deposit of the licensee's further charges for energy as they accrue, and the consumer has failed to comply with such request.

Cf. *Indian Elec. Act, 1903, s. 24. See Introduction, paragraph 16.*

Sub-section (1).

The dates at which payment, for energy supplied and meter rents, will become due and payable is a matter which is generally provided for by the contracts which intending consumers are required to sign. In India payments are usually made monthly. Some licensees allow a substantial rebate on their accounts if these are paid within a specified number of days after the submission of the bill. This arrangement is satisfactory alike to the licensee and to consumers generally.

Any sum other than a charge for energy.—This would include the cost of the connection to the house in so far as it is in any case payable by the consumer [Sch., cl. VI (1). 1st prov., sub-head (b), and VI (2)]; also the hire of meters, when the licensee supplies them [Sec. 26 (1) prov.]; any charge for testing meters [Sec. 26 (4)] or an installation with excessive leakage (Rules 23, 24); any charge for lawful cutting off and reconnecting the supply (Introduction, paragraph 16); and so forth. If service-lines were put in on hire terms [see note to Schedule cl. VI (1)] the hire instalments would be included here. The present phrase was substituted for the words "any other sum due" by the Indian Electricity (Amendment) Act, 1922, as a lower Court held (see paragraph 16 of Introduction) that the latter words were a mere paraphrase of the words "any charge for energy" and *consequently* refused to give the licensee relief when the supply was cut off in consequence of alleged non-payment of "other sums due." The decision was clearly in direct violation of the words of the Act of 1910. One doubtful case arose where a consumer refused to give security under Schedule, clause (VI) (1), and proviso (a), when renewing his agreement. This is not a dispute covered by Schedule, clause VI (3), and the giving of security is a condition precedent to receiving a supply. Subsection 24 (2) does not therefore arise.

Seven clear days' notice.—The licensee may not contract himself out of the obligation to give notice by anything inserted in his "conditions" of supply [section 21 (2)], or in his form of agreement.

Cut off the supply.—See paragraph 16 of the Introduction under this marginal heading. Under section 18 of the (British) Electric Lighting Act, 1909, the undertakers may for default of payment refuse to supply energy to a person "whether any such payments be due to the undertakers in respect of a supply to the premises in respect of which such supply is demanded or in respect of other premises."

Together with any expenses.—It is clear that the supply need not be recommenced until all sums due are paid, including the payment of the usual reconnection fee in advance.

But no longer.—So soon as the debt is discharged the premises must be reconnected unless the discontinuation is justifiable on other grounds, such as leakage, or improper use of energy, or an imperfect meter belonging to the consumer, etc. *Vide* Schedule, clause VI (1), second proviso.

Sub-section (2).

This sub-section was a proviso to sub-section (1) in the Act of 1910 and was altered by the Indian Electricity (Amendment) Act, 1922, when it was made a separate sub-section and a new proviso was added to it. Under the present sub-section

PART II.

Sec. 24.

the right to disconnect does not accrue so long as any *bona-fide* dispute remains to be settled by an Inspector, but this provision in the Act of 1910 was grievously abused by unscrupulous consumers. It was found that a consumer, having run up a bill, would refer one matter after another to the Electric Inspector so as to avoid payment of his dues. The proviso now added will effectually stop such practices, as the licensee can demand that the consumer shall deposit the sums due from time to time, failing which the prohibition against cutting off the supply does not apply.

Sec. 25.

Exemption
of electric
supply-lines
or other
apparatus
from attach-
ment in
certain cases

25. Where any electric supply-lines, meters, fittings, works or apparatus belonging to a licensee are placed in or upon any premises, not being in the possession of the licensee, for the purpose of supplying energy, such electric supply-lines, meters, fittings, works and apparatus shall not be liable to be taken in execution under any process of any Civil Court or in any proceedings in insolvency against the person in whose possession the same may be.

(*Cf. Indian Elec. Act, 1903, s. 25.*)

Belonging to the licensee . . . for the purpose of supplying energy. A license may give powers to the licensee to supply wires and fittings, etc., on hire or hire-purchase, as in so-called "free-wiring" systems. These wires, etc., would strictly speaking be for the purpose of utilizing, not supplying, energy. But, on the analogy of British law, they will not be liable to attachment, if the leading cases are followed. The corresponding British provisions are section 25 of the Electric Lighting Act, 1882 (45 and 46 Vict. c. 56), as modified by section 16 of the Electric Lighting Act, 1909 (9 Edw. 7. c. 34), together with certain provisions of the Gasworks Clauses Act, 1847 (10 and 11 Vict. c. 15), which are incorporated in the British Acts. A gas stove let for hire was held to be a "fitting for the gas" within the meaning of section 14 of the last-named Act, and is therefore not subject to distress for rent (*Gas Light & Coke Co. v. Hardy* (1886) 17 Q.B.D. 619). Section 16 of the Electric Lighting Act, 1909, expressly extends and applies section 25 of the 1882 Act to wires, fittings, apparatus and appliances let by the undertakers for hire. If they are fixed to the premises, they would not be distrainable at common law. The protection does not extend to similar things let on hire to the consumer by a third party, other than the undertakers. (Dalton's *Will's Electric Lighting*, 3rd edition.) It would appear that the specific modification of the above Act of 1882 was merely for the purpose of removing doubts, as the leading gas case quoted is of much older date; probably, therefore, the considerations above would apply to licensed undertakings in India also. No case has arisen on the point. Special protection could however be inserted in the license to cover this case, as has been done in special Acts authorizing local authorities in Great Britain to let out apparatus for hire. The addition of the words "or utilizing" after the word "supplying" would be an improvement.

Sec. 26.

Meters.

26. (1) In the absence of an agreement to the contrary, the amount of energy supplied to a consumer or the electrical quantity contained in the supply shall be ascertained by means of a correct meter, and the licensee shall, if required by the consumer, cause the consumer to be supplied with such a meter :

Provided that the licensee may require the consumer to give him security for the price of a meter and enter into an agreement for the hire thereof, unless the consumer elects to purchase a meter.

(2) Where the consumer so enters into an agreement for the hire of a meter, the licensee shall keep the meter correct, and, in default of his doing so, the consumer shall, for so long as the default continues, cease to be liable to pay for the hire of the meter.

(3) Where the meter is the property of the consumer he shall keep the meter correct, and, in default of his doing so, the licensee may, after giving him seven days' notice, for so long as the default continues, cease to supply energy through the meter.

(4) The licensee or any person duly authorized by the licensee shall, at any reasonable time and on informing the consumer of his intention, have access to, and be at liberty to inspect and test, and for that purpose, if he thinks fit, take off and remove, any meter referred to in sub-section (1); and, except where the meter is so hired as aforesaid, all reasonable expenses of, and incidental to, such inspecting, testing, taking off and removing shall, if the meter is found to be otherwise than correct, be recovered from the consumer; and, where any difference or dispute arises as to the amount of such reasonable expenses, the matter shall be referred to an Electric Inspector, and the decision of such Inspector shall be final:

Provided that the licensee shall not be at liberty to take off or remove any such meter if any difference or dispute of the nature described in sub-section (6) has arisen until the matter has been determined as therein provided.

(5) A consumer shall not connect any meter referred to in sub-section (1) with any electric supply-line through which energy is supplied by a licensee, or disconnect the same from any such electric supply-line, without giving to the licensee not less than forty-eight hours' notice in writing of his intention.

(6) Where any difference or dispute arises as to whether any meter referred to in sub-section (1) is or is not correct, the matter shall be decided, upon the application of either party, by an Electric Inspector, or by a competent person specially appointed by the Local Government in this behalf; and, where the meter has, in the opinion of such Inspector or person, ceased to be correct, such Inspector or person

PART II.
Sec. 26.

shall estimate the amount of the energy supplied to the consumer or the electrical quantity contained in the supply, during such time as the meter shall not, in the opinion of such Inspector or person, have been correct; and where the matter has been decided by any person other than the Electric Inspector, an appeal shall lie to the Inspector, whose decision shall in every case be final: but, save as aforesaid, the register of the meter shall, in the absence of fraud, be conclusive proof of such amount or quantity:

Provided that, before either a licensee or a consumer applies to the Electric Inspector under this sub-section, he shall give to the other party not less than seven days' notice of his intention so to do.

(7) In addition to any meter which may be placed upon the premises of a consumer in pursuance of the provisions of sub-section (1), the licensee may place upon such premises such meter, maximum demand indicator or other apparatus as he may think fit for the purpose of ascertaining or regulating either the amount of energy supplied to the consumer, or the number of hours during which the supply is given, or the rate per unit of time at which energy is supplied to the consumer, or any other quantity or time connected with the supply:

Provided that the meter, indicator or apparatus shall not, in the absence of an agreement to the contrary, be placed otherwise than between the distributing mains of the licensee and any meter referred to in sub-section (1):

Provided, also, that, where the charges for the supply of energy depend wholly or partly upon the reading or indication of any such meter, indicator or apparatus as aforesaid, the licensee shall, in the absence of an agreement to the contrary, keep the meter, indicator, or apparatus correct; and the provisions of sub-sections (4), (5) and (6) shall in that case apply as though the meter, indicator or apparatus were a meter referred to in sub-section (1).

Explanation.—A meter shall be deemed to be "correct" if it registers the amount of energy supplied, or the electrical quantity contained in the supply, within the prescribed limits of error, and a maximum demand indicator or other apparatus referred to in sub-section (7) shall be deemed to be "correct" if it complies with such conditions as may be prescribed in the case of any such indicator or other apparatus.

Cf. *Indian Elec. Act, 1903, s. 30.* See *Introduction, paragraph 18.*

PART II.

Sec. 26.

Sub-section (1).

The amount of energy . . . or the electrical quantity.—See section 23 (3), sub-clauses (a) and (b) and the notes on the same, *supra*. Any consumer may demand to be charged by one of these methods, both representing “flat rates” per unit assessed in different ways, if he is dissatisfied with the system of charging in force, unless he has made an agreement accepting that system, and it is still in force.

A correct meter.—See the “Explanation” at the end of the section; “Prescribed” means by rule; and rule 2 (u) defines what is a “correct” meter, indicator or other apparatus.

In some of the British Special Acts for power supply there is a provision for arbitration as to the type of meter to be used, with a further provision that if either party so requires the value of the supply shall be ascertained by three such meters, one to belong to and be kept in repair by the company, another to belong to and be kept in repair by the authorized distributors and a third to be provided and kept in repair by the company at the joint expense of the parties. In such a case the amount of energy supplied is to be ascertained by the average of the readings of these meters, and any meter showing a difference, from the mean reading of the three, of more than three per cent is to be recalibrated at the joint expense of the parties. This arrangement might with advantage be followed in the case of bulk supply in India. It would be permissible by agreement—see the opening words of the clause. There is always a possibility of a single meter being exceedingly incorrect; the Author recollects one which read 100 per cent. in excess, while in a case of power supply in India a meter assessed the energy used at Rs. 3,000 in excess of the correct amount. In another case an electrolytic meter, disconnected entirely, registered 90 units a day; this was in Delhi, when the shade temperature was 110 degrees F.

Provided.—The consumer may elect either to buy or to hire a meter; he almost invariably hires, as this puts the onus of keeping it in order on the licensee [sub-section (2)]. If he chooses to buy he must keep the meter in order himself [sub-section (3)].

Sub-meters.—It is clear, and has been so laid down in Madras, that where a licensee has a main meter for assessing his charges, and individual tenants in the building wish to have separate meters for ascertaining their shares of the total, the licensee is in no way bound by these sub-meters. This is a different proposition to that provided for by sub-section (7), where the licensee adds other meters, etc., for his own ends.

Sub-section (2).

The hire of the meter.—The consumer cannot on these grounds refuse to pay the charges for energy, but only the meter rent. Disputes as to the charge for energy are settled under sub-section (6). See also section 24 (2) and its proviso, and note thereon.

Sub-section (3).

After giving him seven days' notice.—The licensee has access to the consumer's meter. for the purpose of testing it, under sub-section (4) and also (in wider terms) under section 20. See also Rule 108, as to “mode of entry.”

Sub-section (4).

Any meter referred to in sub-section (1).—This may be either the licensee's meter or the consumer's. Under section 20 (1) (a) the licensee already has the right of access to premises here given for testing his own meters. If the meter belongs to the consumer the present sub-section gives the licensee the right of access to it without the necessity of obtaining an order under section 20 (2).

PART II.

Sec. 26.

The decision of such Inspector shall be final.—An appeal does not therefore lie from the Inspector's decision, under section 36 (3).

Provided.—If there is a meter dispute the instrument may not be arbitrarily removed by the licensee for testing, nor may the supply be cut off for non-payment of charges or hire, so long as the consumer deposits the amount originally in dispute, and the further charges for energy as they accrue, with the Electric Inspector. (Section 24, sub-section (2) and proviso.)

Sub-section (5).

Breach of this provision renders the offender liable to a fine which may extend to three hundred rupees and to a daily fine which may extend to thirty rupees - section 44 (a)—and the notes on that section should be read. Under ordinary circumstances the consumer who elects to purchase a meter instead of hiring one will arrange for the licensee to connect it in the circuit, although it is open to him to do this himself after giving the specified notice to enable the licensee to have a representative present. The same remark applies in the case of disconnection, but if the consumer suspects his own meter to be inaccurate he may arrange for it to be removed for testing after giving the notice required, a temporary meter would no doubt have to be put in its place. A licensee can put his seal on a consumer's own meter, to prevent fraud (Rules 29 and 106).

Sub-section (6).

Any difference or dispute.—It was held by the Madras Government -the question did not reach the Courts—that a difference or dispute occurs when a consumer merely distrusts his meter. See note to proviso to this sub-section.

Or by a competent person.—It is clear that when electrical undertakings have multiplied it would be impossible for the Electric Inspector of a Province to test every disputed meter himself. The use of sub-standard portable meters, calibrated by the Inspector, would appear to be the best solution of the problem. It will be seen that if the Electric Inspector does not himself test the meter an appeal lies to him, and his decision is final.

Where the meter has . . . ceased to be correct.—Under ordinary conditions it is customary to take the average of the previous three months' readings in cases where a meter stops or its indications are found incorrect. In India, however, it may very frequently happen that the supply has not been used for as long a period, as, e.g., in the case of power meters at the beginning of the hot weather season. The matter is consequently left to the discretion of the Inspector. The words "on the basis of the previous supply" found here in the Act of 1910 were omitted by the Indian Electricity (Amendment) Act, 1922. It is not necessary that the Electric Inspector shall have previously tested the meter and certified it "correct" in order that he may subsequently settle a dispute. If the meter error exceeds what is allowable the whole error, and not merely the excess, is to be paid or refunded.

It sometimes happens that a serious defect in a meter remains undiscovered over a comparatively long period of time. The consequence is that a consumer may be overcharged or—as more rarely happens—undercharged for the amount of gas or other commodity consumed by him. In such circumstances there is authority for saying that, in so far as any claim is not barred by the Statute of Limitation, the injured party is entitled to redress. In the case of the *South Metropolitan Gas Co. v. The Mayor, etc., of Bermondsey* (*The Times*, May 18th, 1901) an action was brought to recover the sum of £884, the price of gas supplied to the Commissioners of Baths and Wash-houses in Rotherhithe (the predecessors of the defendants) from 1894 to 1900. Owing to the fact that the dial of the meter in use during that period was misleading, the amount of gas charged for was but one-tenth of the actual amount consumed. The mistake had existed since 1885, but the claim for arrears which had

accrued prior to 1894 was barred by the Statute of Limitations. The defendants admitted the mistake, but sought to escape liability on the ground (*inter alia*) that they could not make or levy a retrospective rate for the purpose of discharging the debt, nor could they apply the moneys in their hands derived from current rates in payment thereof. This defence, however, did not prevail, and they were held liable for the arrears which were not barred by the Statute (*Electrical Review*, August 20th, 1909).

Save as aforesaid.—In Great Britain the corresponding saving clause states that the register shall be conclusive *evidence*, not *proof*. In a case where a new meter registered three times as much as a former meter had registered for five years during the corresponding quarter, Judge Rentoul, K.C., in the City of London Court, held, on the facts, that the register of the meter was not conclusive evidence. (*City of London Electric Lighting Company v. Oakley—The Electrician*, Nov. 14th, 1902, p. 158.) On the other hand, it was held in the same Court by another Judge that the consumer must pay, according to the record of his meter, even if it is proved to be inaccurate—see paragraph 18 of Introduction. The case, however, was not on all fours with that quoted above.

Provided that . . .—This proviso was added by the Indian Electricity (Amendment) Act, 1922, to prevent friction when a dispute is referred to the Electric Inspector. It has always been customary for the licensee, under sub-section (4) of this section, to take away and test meters that are in doubt. If, however, the consumer chooses he can demand that the licensee shall not remove the meter, but that it be tested by the Electric Inspector under the present sub-section. Courtesy however indicated that notice should be given and, in its absence, the proviso has been added.

Sub-section (7).

First proviso.—The cost of the energy used in the *working* of the apparatus must, under this proviso, fall on the licensee and not on the consumer (see also section 21). The amount of energy consumed in actuating the meter is extremely small, being confined to that lost by driving a set of gears, or in a magnetizing coil and so forth. The diminution of pressure at the point of supply is negligible.

Provided also.—This second proviso is intended to control the action of the licensee where special systems of charging are in force, as, *e.g.*, those involving the use of maximum demand indicators, or time switches for “restricted hour supply,” or power factor recorders, or any other apparatus than a “meter described in sub-section (1).” If the apparatus in question is merely put in for the licensee’s information the consumer is not concerned with it; if, however, the charges for the supply are to be assessed on the readings of the apparatus, it is to be regarded to all intents as if it were a “meter referred to in sub-section (1).”

Explanation.—“Prescribed” means “prescribed by rule,” see section 2 (j). The allowable percentage variation means a variation above or below the standard to the prescribed extent; see rule 2 (d). Considerable difference of opinion exists as to what variation should be allowed and (if necessary) a special rule could be made by the Governor-General in Council to meet the needs of a particular undertaking. The British Standards Institution (formerly the British Engineering Standards Association) specification for electricity meters, No. 37, revised January, 1929 (and 1930), is, however, the best guide, and is adopted in rule 2 (u). Details are given in Appendix III.

27. Notwithstanding anything in this Act, the Local Government may, by order in writing, and subject to such conditions and restrictions, if any, as it thinks fit to impose, Sec. 27.
Supply of energy outside area of supply.

PART II.

Sec. 27.

authorize any licensee to supply energy to any person outside the area of supply, and to lay down or place electric supply-lines for that purpose :

Provided, first, that no such authority shall be conferred on the licensee within the area of supply of another licensee without that licensee's consent, unless the Local Government considers that his consent has been unreasonably withheld :

Provided, secondly, that such authority shall not be conferred unless the person to whom the supply is to be given has entered into a specific agreement with the licensee for the taking of such supply :

Provided, thirdly, that a licensee on whom such authority has been conferred shall not be deemed to be empowered outside the area of supply to open or break up any street, or any sewer, drain or tunnel in or under any street, railway or tramway, or to interfere with any telegraph-line, without the written consent of the local authority or person by whom such street, sewer, drain or tunnel is repairable, or of the telegraph-authority, as the case may be, unless the Local Government, after such enquiry as it thinks fit, considers that such consent has been unreasonably withheld :

Provided, fourthly, that save as aforesaid, the provisions of this Act shall apply in the case of any supply authorized under this section as if the said supply were made within the area of supply.

In the Act of 1903 there was no provision corresponding to this section, and much difficulty was experienced in consequence. In the case of urban undertakings the applicant for a license has to consider what area of supply he wishes to limit himself to ; and, bearing in mind the provisions of section 22, and of clauses V, VI and VIII of the Schedule, it may be undesirable to have the area of supply coterminous with the extreme limits of a municipal area. In such a case, however, there are always certain to be applicants for a supply just beyond the boundary line, wherever it may be fixed ; and heretofore an extension of the area of supply by means of a fresh license has been the only course open. Under the re-enacted Act two alternatives offer : first, the extension of the area of supply under section 4 (3) (b), and, secondly, the laying of a special service line outside the area of supply under the provisions of the section under discussion. Section 6 of the (British) Electric Lighting Act, 1909, may be compared.

To any person.—In view of the first proviso following it is probable that these words would be construed as applicable to one person only in one authorization, and that the singular would not (in this context) include the plural (para. 29).

Provided, first.—As in the statute referred to in the first note above, the consent of a competing licensee is required, but an unreasonable refusal to comply may be overruled. As to the association of licensees, see section 9.

Provided, secondly.—This limits the licensee's powers as regards persons who may

be supplied. An extension may not be made outside the area of supply on the chance of obtaining consumers; nor is it likely that the licensee would wish to do this.

Provided, thirdly.—This proviso limits the licensee's powers under this section as regards the manner in which works may be carried out. The "repairing authority" or "owner" had the unconditional right of veto here, under the Indian Electricity Act, 1910, as passed, which they had not when works were carried out within the area of supply. By the Indian Electricity (Amendment) Act, 1922, the words "unless the Local Government, after such enquiry as it thinks fit, considers that such consent has been unreasonably withheld" were added, thus bringing this proviso on all fours with the first proviso.

Street. As to bridges, see notes on section 2 (*m*) and on section 12 (*I*).

Tunnel. See notes on section 12 (*I*).

Provided, fourthly.—The object of this proviso may with advantage be briefly explained. The third proviso virtually applies the provisions of sections 12 to 17; and having obtained the written consent of the local authority or person by whom the street, etc., is repairable, it remains for the licensee to comply with the requirements of those sections in detail, in so far as he has not already done this when applying for that consent. The remainder of Parts II and IV applies exactly as in the case of supply within the licensed area.

PART III.

PART III

SUPPLY, TRANSMISSION AND USE OF ENERGY BY NON-LICENSEES.

Sections 28 to 30.

For a general discussion of Part III of the Act the reader is referred to Chapter IV of the Introduction—paragraphs 20 and 21. When moving in Council that the Report of the Select Committee on the Indian Electricity Bill, 1910, should be taken into consideration the Hon'ble Member in charge of the Bill made the following remarks on Part III:—

"Part III of the Bill has been considerably altered. * * * * *
Part II now deals with licenses, and Part III with the supply and use of electricity by non-licensees. The Council will understand that there are many cases in which it would be entirely unnecessary to insist on all the formalities of a license. There are many cases in which no license is required, but where the transmitter of energy requires some of the powers of a licensee. The owner of one country house, for example, who had put in an electric installation, might be prepared to supply a neighbouring house or houses, or a factory might wish to supply the offices and dwellings of its employes. *There is no prohibition against this by itself in the Act.* It may be, however, that in the process of supply a road or a street has to be crossed, and there is no authority at present for the grant of power to make such crossings. In practice, I understand that permission to make them is given: that is to say, the authorities intimate that they have no objection, and the person transmitting the electricity proceeds to make his arrangements, but the legal position is not secure. To meet such cases we have, first of all, provided that the Local Government may give permission to persons without licenses to supply electricity in certain cases. In doing this we have been careful to safeguard the interests of the local authority and of existing licensees, and have placed on the Local Government the responsibility of

PART III. determining that the case is one in which it is unnecessary to insist on the formalities of a license.

Sec. 27.

"Then we have provided for the grant of the powers that may be necessary, both in these cases and in cases that might occur of the class contemplated by section 31 of the existing Act,* under which notice has to be given to the Commissioner of Police, or District Magistrate, of intention to transmit electricity in a street." (The italics are the Author's.)

Sec. 28.

Sanction
required
by non-
licensees
in certain
cases.

28. (1) No person, other than a licensee, shall engage in the business of supplying energy except with the previous sanction of the Local Government and in accordance with such conditions as the Local Government may fix in this behalf, and any agreement to the contrary shall be void :

Provided that such sanction shall not be given within the area for which a local authority is constituted, without that local authority's consent, or within the area of supply of any licensee, without that licensee's consent, unless the Local Government considers that consent has been unreasonably withheld.

(2) Where any difference or dispute arises as to whether any person is or is not engaging, or about to engage, in the business of supplying energy within the meaning of sub-section (1), the matter shall be referred to the Local Government, and the decision of the Local Government thereon shall be final.

Cf. Indian Elec. Act, 1903, s. 3. See Introduction, paragraph 20.

Sub-section (1).

The general question, as to where a license is or is not required, is fully discussed in the Introduction, as referred to above : notes on sanctions actually given and the conditions imposed will be found in that place. Under the Act of 1903, section 3, it was necessary to have a license for the supply of energy "for electric traction or to the public for any purpose," but for reasons explained in paragraph 6 of the Introduction this section was amended in 1910. It will be observed that by the Indian Electricity (Amendment) Act, 1922, the first proviso to this section in the Act of 1910 has been repealed ; it was found unworkable and restrictive and was tacitly ignored. The present proviso was the second in the original Act of 1910.

The business of supplying energy.—This phrase is not capable of exact interpretation, but the decision of the Local Government upon it is final under sub-section (2), and the decision would doubtless be arrived at mainly on the grounds of public convenience. In the United Kingdom a "person" is only supplying energy to the public when that is *his chief business*, and the sale of surplus power from a private generating station serving a factory would not be of this nature. [Section 23 of the Electric Lighting Act, 1909 (9 Edw. 7, c. 34) prohibits unauthorised persons from competing with statutory undertakings ; but it contains a proviso : "Provided that this section shall not prevent any company or person from affording a supply of

* The Indian Electricity Act, 1903. The section is No. 30 of the present Act.

electrical energy to any other company or person where the business of the company or person affording the supply is not primarily that of the supply of electrical energy to consumers.] Having obtained the sanction of the Local Government it is then necessary for the non-licensee to obtain power to break up streets, assuming this to be required, and section 29 (1) empowers the local authority to confer and impose upon him all or any of the powers and liabilities of a licensee under sections 12 to 19. These sections comprise the italic heading "*Works*". If the local authority passes no order, either granting or refusing the powers within 14 days, the Local Government may step in under sub-section 29 (4).

In accordance with such conditions.—Should an unconditional order be given under this section there would be great danger of an uncontrolled monopoly virtually coming into existence. Some at least of the provisions of Part II as to "Supply" should in every case be imposed as conditions.

Any authorized supply by a non-licensee under this section, operating within the area of supply of an existing licensee, would necessarily involve competition between the two concerns; and the conditions imposed should be such as to make the competition operate on equal terms. But there are other cases of competitive supply possible, which would not require sanction under this or any other section, but as to which much argument has taken place. For instance, if a railway company has a generating station for its own purposes within the licensed area of supply of a local authority or company, there is no reason whatever, either in law or equity, why that railway company should not supply its own employees with power on any terms it chooses, provided it commits no breach of the Act or of the Indian Electricity Rules. A license confers no monopoly (section 3 (2) (e) of the Act and notes thereon). A licensee is given valuable privileges as to breaking up streets and carrying out works, and as to his relations with consumers, etc., and he is allowed to sell his commodity (electrical energy) to any one who will take it; but it cannot for a moment be contended that the whole of the persons in that area are thereby debarred from generating energy for themselves or from buying it from any other person than the licensee who can supply the commodity cheaper. That would be monopoly, quite definitely.

Any agreement to the contrary shall be void.—These words are, strictly speaking, redundant. In view of the direct prohibition contained in the opening words of the section, any authorization for this purpose, whether express or implied by an agreement with the local authority, must, in the absence of previous sanction, be altogether inoperative. The main object of the clause is to prevent local authorities being parties to the breaking up of their streets for the purpose of electric supply by parties not having the proper authority; and, where sanction has been duly given, the local authority are expressly enabled by section 29 (1) to confer and impose on the party in question certain powers and liabilities of a licensee as to works.

Sub-section (2).

It is very doubtful if Government could give a decision subject to the condition that it reserved to itself the right to rescind or alter that decision subsequently. Section 21 of the General Clauses Act, 1897 (see paragraph 29 of Introduction), would not, it is submitted, apply. See page 116 "*The Henzada case*".

29. (1) The local authority may, by order in writing, confer and impose upon any person, who has obtained the sanction of the Local Government under section 28 to engage in the business of supplying energy, all or any of the powers and liabilities of a licensee under sections 12 to 19, both

Sec. 29.
Power for
non-licensees
to break
up streets.

PART III.
Sec. 29.

inclusive, and the provisions of the said sections shall thereupon apply as if such person were a licensee under Part II.

(2) A local authority, not being a licensee, shall, for the purpose of lighting any street, have the powers and be subject to the liabilities respectively conferred and imposed by sections 12 to 19, both inclusive, so far as applicable, as if it were a licensee under Part II.

(3) In cases other than those for which provision is made by sub-section (1), the person responsible for the repair of any street may, by order in writing, confer and impose upon any person who proposes to transmit energy in such street all or any of the powers and liabilities of a licensee under sections 12 to 19 (both inclusive), in so far as the same relate to—

- (a) opening or breaking up of the soil or pavement of such street, or
- (b) laying down or placing electric supply-lines in, under, along or across such street, or
- (c) repairing, altering or removing such electric supply-lines,

and thereupon the provisions of the said sections shall, so far as aforesaid, apply to such person as if he were a licensee under Part II.

(4) If no order is made within fourteen days after the receipt of an application for the same under sub-section (1) or sub-section (3), the order so applied for shall be deemed to have been refused, and every order, and every refusal to make an order, under sub-section (1) or sub-section (3), shall be subject to revision by the Local Government.

See Introduction, paragraphs 20 and 21.

This section differs considerably from the form it took in the Bill as presented by the Select Committee. It is intended primarily for cases that are not of any great importance, and that will often be merely temporary, and when it is not desired either that there should be any very complicated procedure or that there should be any delay in obtaining the powers which are really required. It will be necessary to give notice to the Commissioner of Police or the District Magistrate in any case in which there is a possibility of danger, under clause 30 of the Act; but when powers are required it is enacted that the application should be made direct to the person responsible for the repair of a street, *i.e.*, the same person to whom a licensee has to refer under clause 13 of the Act. The powers of the local authority are thus fully retained in cases in which a street is under a local authority.

Sub-section (3).

PART III.

Sec. 20.

The person responsible.—An extraordinary state of affairs arose in Great Britain where no one could be found who was responsible for the repair of a street. It was held in such a case that unless the undertakers were specially authorized to break up the street by their Special Order, they could not do so even with the consent of the Electricity Commissioners, for which the Act of 1882 (as modified) provides. The case was only decided in this sense by a majority of two to one, however (*Andrews v. Abertillery Urban District Council* (1911), 2 Ch. 398; *vide* Dalton's "Will's Electric Lighting," 5th edition, pp. 85 and 135.)

29A. The provisions of sub-section (3) and (4) of section 18 and of the *Explanation* thereto shall apply in the case of any aerial line placed by any railway administration as defined in section 3 of the Indian Railways Act, 1890, as if the references therein to the licensee were references to the railway administration.

Sec. 29A.

Application of section 18 to aerial lines maintained by railways. IX of 1890.

See Introduction, paragraph 14, and s. 18 of the Act.

This section was inserted by Act XL of 1923 (The Indian Electricity (Amendment Act, 1923), of which it forms the one operative section. The notes on section 18 (3) and (4), as to the removal, etc., of trees and jungle growth, may be referred to. In view of the extensive railway electrification around Bombay, the provision is necessary; since no license is required for such work.

30. (1) No person, other than a licensee duly authorized under the terms of his license, shall transmit or use energy at a rate exceeding two hundred and fifty watts,—

Sec. 30.

Control of transmission and use of energy.

(a) in any street, or

(b) in any place,

(i) in which one hundred or more persons are likely ordinarily to be assembled, or

(ii) which is a factory within the meaning of the Indian Factories Act, 1911, or

XII of 1911.

(iii) which is a mine within the meaning of the Indian Mines Act, 1923, or

IV of 1923.

(iv) to which the Local Government, by general or special order, declares the provisions of this sub-section to apply,

without giving not less than seven clear days' notice in writing of his intention to the District Magistrate or, in a Presidency-town or Rangoon, to the Commissioner of Police, and complying with such of the provisions of Part IV, and of the rules made thereunder, as may be applicable:

Provided that nothing in this section shall apply to energy used for the public carriage of passengers, animals or goods on, or for the lighting or ventilation of the rolling-stock of, any railway or tramway subject to the provisions of the Indian Railways Act, 1890:

IX of 1890.

PART III.
 Sec. 30.

Provided also, that the Local Government may, by general or special order and subject to such conditions and restrictions as may be specified therein, exempt from the application of this section or of any such provision or rule as aforesaid any person or class of persons using energy on premises upon or in connection with which it is generated, or using energy supplied under Part II in any place specified in clause (b).

(2) Where any difference or dispute arises as to whether a place is or is not one in which one hundred or more persons are likely ordinarily to be assembled, the matter shall be referred to the Local Government, and the decision of the Local Government thereon shall be final.

(3) The provisions of this section shall be binding on the Crown.

Cf. Indian Elec. Act, 1903, s. 31. See Introduction, paragraph 21.

Regarding the genesis of this section the "Statement of Objects and Reasons" when the original Bill (afterwards the Act of 1903) was first introduced in 1901 gave the following information:—

"By the (Electricity) Act of 1887 no exception is made to the application of its provisions to installations in places where one hundred or more persons are likely to be assembled, and consequently no such installation is lawful until notice has been given as required by section 3 of that Act. In practice, however, this provision has been almost a dead-letter in the case of installations in factories, theatres, clubs, etc. Section 4 (1) of the English Act of 1888 provides that any electric line or work laid down or erected by any body or person for the supply of electricity generated upon any premises occupied by such body or person to any other part of such premises shall not be subject to the regulations there referred to, and it is doubtful how far it is necessary to provide for the control of self-contained installations of this kind. It is thought that, although it may be unnecessary to bring purely private installations under this Part, the Government should not renounce the power of control which it has taken under the (Electricity) Act of 1887 in all cases in which the safety of the public is concerned, or in which danger to telegraph lines may be apprehended. The first part of this clause, therefore, follows section 3 of the Act of 1887, but a proviso has been added which will enable the Local Government by special or general order, to exempt from its operation any person or class of persons using energy on premises upon which it is generated. The latter portion of the clause contains a necessary provision for the authoritative settlement by the Local Government of any question which may be raised as to the application or non-application of Part III of the Bill."

In 1910 the section was made applicable to cases where energy is purchased from a licensee or other party; the words limiting it to "energy not supplied under Part II" in the Indian Electricity Act, 1903, having been omitted. Secondly, it was made applicable to the transmission, as well as to the use of energy in the specified places. The term "transmission of energy" here is obviously used in its widest sense, not with the special technical meaning attached by custom to the term "transmission of power" amongst electrical engineers, implying long distance and high pressure.

Thirdly, mines were specifically included among the places to which the Part applies, although most mines are "places within which one hundred or more persons are likely ordinarily to be assembled" and as such subject to the provisions in any case. Fourthly, the total exclusion of railways from the operation of this Part, in the Act of 1903, was modified. Finally, the Part was made binding on the Crown. By the Indian Electricity (Amendment) Act, 1922, an additional sub-clause (iv) was added to sub-section (1) (b) so as to include (if necessary) places which do not come under the definitions of "factories" and "mines" in those Acts.

Sub-section (1).

An accident resulting from a breach of this provision (namely, "transmitting energy in a street" without giving notice or complying with Part IV of the Act or with the rules, especially as to earthing) was the origin of the case *Rangoon Electric Supply & Traction Co. v. King-Emperor* reported in paragraph 33 of the Introduction, *supra*.

No person.—This term includes local authorities, companies, etc.; *vide* definition of "person" in the General Clauses Act, paragraph 29 of Introduction.

Energy.—*i.e.*, if transmitted or used at a rate exceeding 250 watts for any purpose except the transmission of a message; see definition of "energy" in section 2 (g).

At a rate exceeding 250 watts.—These words exclude from the operation of the section apparatus such as bells and the like worked by electricity. In the Act of 1903 the limitation was inserted in the definition of energy. The watt is the practical unit of electrical power, representing 10^7 C.G.S. electromagnetic units. Watts represent the product of current and pressure, *i.e.*, of volts \times amperes. In the case of alternating current circuits the power in watts is the product of virtual volts \times virtual amperes \times the power factor (*i.e.*, the cosine of the angle representing the phase difference between the waves of pressure and current). A rate of 250 watts is roughly equivalent to one-third of a horse-power, or the power taken by about eight ordinary domestic lamps of modern type, or two ceiling fans.

Any street.—See definition in section 2 (m) and notes thereon.

Sub-head (b) (i).—See note on sub-section (2), *infra*.

Sub-head (b) (ii). Factory.—The Indian Factories Act, 1911 (XII of 1911), was amended by the Indian Factories (Amendment) Act, 1922 (II of 1922), simultaneously with the revision of the Indian Electricity Act; and it has since been further amended in various respects by the Indian Factories (Amendment) Act, 1923 (IX of 1923), and also by the Indian Factories (Amendment) Act, 1926 (XXVI of 1926). The amended definition of a factory in section 2 (3) of the Act, is as follows:—

" 'Factory' means

"(a) any premises wherein, or within the precincts of which, on any one day in the year not less than twenty persons are simultaneously employed and steam, water or other mechanical power or electrical power is used in aid of any manufacturing process; or

"(b) any premises wherein, or within the precincts of which, on any one day in the year not less than ten persons are simultaneously employed and any process is carried on, whether any such power is used in aid thereof or not which have been declared by the Local Government, by notification in the local official Gazette, to be a factory;

"A declaration under clause (b) may be made in respect of any class of premises, or in respect of any particular premises."

Factories belonging to the Crown are expressly included by section 54 of the Act; but by section 56 any factory may be exempted in case of public emergency.

PART III.

Sec. 30.

By section 3 of the Indian Factories Act of 1911 there were a number of exemptions from its operation, including "any electrical generating station or sub-station," but the amending Act restricts exemption solely to Mines.

Sub-head (b) (ii). Mine.—The definition of a "mine" in section 3 (f) of the Indian Mines Act, 1923 (IV of 1923) is as follows :

"Mine" means any excavation where any operation for the purpose of searching for or obtaining minerals has been or is being carried on, and includes all works, machinery, tramways and sidings, whether above or below ground, in or adjacent to or belonging to a mine :

provided that it shall not include any part of such premises on which a manufacturing process is being carried on unless such process is a process for coke making or the dressing of minerals."

Mines belonging to the Crown are expressly included by section 48 of the Act cited. The Indian Mines Act, 1901, was repealed by the above Act, which has itself been since amended in a good many respects (with which we are not here concerned) by the *Indian Mines (Amendment) Act, 1928* (XIII of 1928) ; most of these amendments came into force on April 7th, 1930. The proviso to the above definition of "mine" and section 3 of the *Indian Factories Act, 1911*, mutually prevent any overlapping of the two Acts.

Sub-head (b) (iv).—Under this provision the local Government can bring in any place to which in its opinion the rules should apply ; the amendment of the section has been suggested (in Madras) on the ground that there are many installations using medium or high pressure to which the section does not automatically apply. The remedy is a general or special order.

District Magistrate, etc.—Modified in the Shan States ; see p. 252.

Complying with such provisions of Part IV . . . as may be applicable.—The provisions in question, which are general, could not fail to apply.

The rules made thereunder.—See Appendix I, where these are set out in full.

First proviso ; railways.—The regulation of "energy for the public carriage of passengers, animals or goods on, or for the lighting or ventilation of the rolling stock of, railways" can be dealt with under the Indian Railways Act, 1890, and these matters are therefore excluded from the operations of this section ; but as regards the use of energy in railway stations, goods yards and workshops, these provisions apply (see Introduction, paragraph 34). The case of transmission of energy in connection with railways in any of the places enumerated earlier in the section would depend, presumably, on the circumstances of each case. Transmission for railway electrification would doubtless be dealt with under the Indian Railways Act, and not under the Indian Electricity Act ; but there might be circumstances where it would be otherwise. The Electrical Engineer to a railway administration is usually an Electric Inspector under the Indian Electricity Act, 1910, also.

Tramways.—The majority of tramways are *not* subject to the Indian Railways Act, but are subject to the various Tramways Acts (see Introduction, paragraphs 34 and 35).

Second proviso.—A wide power of exemption is here conferred upon Government ; it has not, so far as the Author is aware, been used.

Using energy on premises upon or in connection with which it is generated. Persons using energy in such a manner as not to fall within the scope of clauses (a) and (b) of sub-section (1) of course do not require to seek any exemption.

Using energy supplied under Part II.—The corresponding section of the Act of 1903 did not apply to cases where the energy was supplied by a licensee. This put the users of such energy in a more advantageous position than their neighbours, who generated energy for their own use ; for while the latter were subject to Part IV of

the Act and also had to comply with the rules germane to Part III the former were merely "consumers," and as such subject only to a few special provisions of the Act and rules. The power to exempt was, in 1910, extended to such persons.

PART III.
—
Sec. 30.

Sub-section (2).

It seems probable that decisions under this sub-section will be in a sense arbitrary, according to the particular circumstances of each case. For example, clubs and churches do not come in the same category with theatres, cinematographs, and, above all, temporary installations. The latter need specially strict regulation, on account of the danger attending an outbreak of fire, and they frequently receive less thorough inspection than they merit. Special local rules under the Cinematograph Acts have been passed in most provinces (see footnote to p. 120).

Sub-section (3).

Binding on the Crown. See remarks on this point in paragraph 29 of the Introduction. The Indian Factories Act and the Indian Mines Act are also binding on the Crown; the effect of this sub-section is to bring such mines and factories under the provisions of Part III of this Act also. The same may be said of the stations, workshops, etc., of State Railways. It is equitable that provisions and rules made for the protection of life and property should apply equally to all persons, whether by enactment or by executive order.

PART IV.

PART IV.

GENERAL.

Sections 31 to 34.

Part IV consists of protective clauses, provisions relating to administration, rules, criminal offences and procedure, with supplementary provisions, all of general application where the language does not clearly show a particular application. Some of the penal and supplementary sections deal only with licensees and have nothing to do with Part III, while others relate exclusively to persons other than licensees.

Sections 31 to 34, inclusive, correspond generally to sections 26 to 29 of the Act of 1903; they were transferred in 1910 from Part II so as to apply also to persons working without a license.

Protective clauses.

31. No person shall, in the generation, transmission, supply or use of energy, in any way injure any railway, tramway, canal or waterway or any dock, wharf or pier vested in or controlled by a local authority, or obstruct or interfere with the traffic on any railway, tramway, canal or waterway. Sec. 31.
Protection of
railways and
canals,
docks,
wharves and
piers.

(*Cf. Indian Elec. Act, 1903, s. 26. See Introduction, paragraph 22.*)

Person.—See the definition of this term in paragraph 29 of the Introduction.

Injure any railway.—*Cf.* section 12 (5) and note. Where specific powers are given to "break up" the soil of railways, etc., those powers are always subject to the provisions of this section; the breaking up must be reasonable. See also sections 128 and 129 of the Indian Railways Act, 1890.

PART IV.

Sec. 31.

Canal or waterway.—Where these are crossed by aerial lines sufficient headway must be allowed for vessels using them. In the case of wide waterways, such as creeks or estuaries, it would generally be held sufficient to provide a single opening for traffic, the width of the passage and the height of the wires above water level being designed to suit the class of vessels using the waterway; a further condition would generally be imposed, namely, that lights should at night be placed on each of the supporting towers, in such a way as to indicate the route clearly. The crossing of Thana Creek, Bombay, by the transmission lines of the Tata Hydro-Electric Power Supply Co. is a good example of such construction.

Sec. 32.

Protection of
telegraphic,
telephonic
and electric-
signalling
lines.

32. (1) Every person generating, transmitting, supplying or using energy (hereinafter in this section referred to as the "operator") shall take all reasonable precautions in constructing, laying down and placing his electric supply-lines and other works and in working his system, so as not injuriously to affect, whether by induction or otherwise, the working of any wire or line used for the purpose of telegraphic, telephonic or electric-signalling communication, or the currents in such wire or line.

(2) Where any difference or dispute arises between the operator and the telegraph-authority as to whether the operator has constructed, laid down or placed his electric supply-lines or other works, or worked his system, in contravention of sub-section (1), or as to whether the working of any wire, line or current is or is not injuriously affected thereby, the matter shall be referred to the Local Government; and the Local Government, unless it is of opinion that the wire or line has been placed in unreasonable proximity to the electric supply-lines or works of the operator after the construction of such lines or works, may direct the operator to make such alterations in, or additions to, his system as may be necessary in order to comply with the provisions of this section, and the operator shall make such alterations or additions accordingly:

Provided that nothing in this sub-section shall apply to the repair, renewal or amendment of any electric supply-line so long as the course of the electric supply-line and the amount and nature of the energy transmitted thereby are not altered.

(3) Where the operator makes default in complying with the requirements of this section, he shall make full compensation for any loss or damage incurred by reason thereof, and, where any difference or dispute arises as to the amount of such compensation, the matter shall be determined by arbitration.

Explanation.—For the purposes of this section, a telegraph-line shall be deemed to be injuriously affected if telegraphic, telephonic or electric-signalling communication by means of such line is, whether through induction or otherwise, prejudicially interfered with by an electric supply-line or work or by any use made thereof.

(*cf. Indian Elec. Act. 1903, s. 27 (2) to (4).* See *Introduction, paragraphs 22, 32, and 36.*

Further provisions respecting telegraphs will be found in s. 17.

Sub-section (1).

This is similar to the 5th sub-clause framed by Lord Cross's Committee of 1893 on "Electric Powers (Protective Clauses)"; but, though framed originally to meet the case of tramways using uninsulated rail returns, it is of equal applicability to all classes of undertaking if they are worked in such a way as to affect the telegraphs injuriously.

Person.—See the definition of this term in paragraph 29 of the Introduction.

Reasonable precautions.—Speaking generally, strict compliance with the Act and the rules, and, in the case of a licensee or tramway promoter, with the conditions of his license or order, would doubtless be held to be taking reasonable precautions. Every case must, however, be considered on its merits and no hard and fast rule can be laid down.

Injuriously to affect.—See the "Explanation" at the end of the section.

Any wire or line.—It is a question whether or not submarine cables are within the contemplation of this section. So far as Great Britain is concerned the point was left undecided by a Committee of the House of Commons, which refused special protective clauses to the Commercial Cable Company in the Weston-super-Mare Tramways Bill (see *The Electrician*, July 6th, 1900, p. 414). "The owners of sensitive apparatus, such as a telegraph cable, cannot, in the absence of special legislation, create for themselves, by reason of the peculiarity of their trade apparatus, a higher right to limit the operations of their neighbours than belongs to the ordinary owners of land who do not trade with telegraph cables" (Decision of the Privy Council in *Eastern and South African Telegraph Company v. Cape Town Tramways Companies, Ltd.* [1902, A.C. (381)]). See also paragraph 36 of the introduction, where the judgment in this case is referred to further.

Sub-section (2).

By the Devolution Act, 1920 (XXXVIII of 1920), "the Local Government" was substituted for "the Governor-General in Council" in both places in this sub-section.

Proviso; nature of the energy transmitted.—No such interference could ordinarily occur with direct or continuous current; a change to alternating current would come within the proviso, as induction from the power line might affect telegraphic communication.

Sub-section (3).

Compensation.—See Introduction, paragraph 15, and section 19.

Arbitration.—See Introduction, paragraph 23, and section 52.

Provided.—It would be a nice legal point to argue whether or not the amount of energy transmitted has been altered, seeing that it is never constant in amount and always liable to short-circuit conditions.

PART IV.

Sec. 33.

Notice of
accidents
and injuries.

33. (1) If any accident occurs in connection with the generation, transmission, supply or use of energy in, or in connection with, any part of the electric supply-lines or other works of any person, and the accident results or is likely to have resulted in loss of life or personal injury, such person shall give notice of the occurrence and of any loss of life or personal injury actually occasioned by the accident, in such form and within such time and to such authorities as the Local Government may, by general or special order, direct.

(2) The Local Government may, if it thinks fit, require any Electric Inspector, or any other competent person appointed by it in this behalf, to inquire and report—

- (a) as to the cause of any accident affecting the safety of the public, which may have been occasioned by or in connection with the generation, transmission, supply or use of energy, or
- (b) as to the manner in, and extent to, which the provisions of this Act or of any license or rules thereunder, so far as those provisions affect the safety of any person, have been complied with.

Cf. *Indian Elec. Act, 1903*, s. 28. See *Introduction*, paragraph 22.

Sub-section (1).

As regards the general recasting of this sub-section by the Indian Electricity (Amendment) Act, 1922, see note below on "Notice of the occurrence."

Accident.—This section deals with giving notice of accidents, not with the liability for them. As regards this last point, it has been held in Great Britain (in a tramway case) that the promoters or lessees are not answerable for mere accident caused without negligence; see cases cited in "Will's Electric Lighting," 5th edition, p. 173, dealing with clause 77 of the Electric Lighting (Clause) Act, 1899. See, however, section 19 of the Indian Electricity Act, 1910, *ante*.

Any person.—See the definition of the term in paragraph 29 of the Introduction. The words "any person" are of course qualified by the preceding words and do not apply indiscriminately to the public, whenever an accident occurs. The person need not be a licensee.

Likely to have resulted in loss . . .—In a case which occurred in Madras, where no injury actually resulted from what might have been a very serious accident, the owner was prosecuted for failing to give notice. The second plea of the defence was that the accident did not come within the scope of the section. The case was referred by the Magistrate to the High Court of Madras (July 13th, 1915), and it was held that "the wording of the section is perfectly clear and specifies cases likely to have resulted in loss of life or personal injury as well as those which actually so resulted. Whether such a result was likely in any case in which it did not actually ensue is a question of fact to be determined with reference to the surrounding circumstances." The defendant was subsequently found guilty of a technical offence and fined.

Notice of the occurrence.—Neglect to send such notice renders the defaulter liable to a fine which may extend to one hundred rupees and, in the case of a continuing

default, to a daily fine which may extend to twenty rupees, under section 47. Persons using energy under Part III of the Act should note this, as it applies to them equally with licensees. This notice is in addition to any other similar statutory notice which must be given under any other Act: *e.g.*, the Indian Factories Act, 1911, s. 34; the Indian Mines Act, 1923, s. 20; the Indian Railways Act, 1890, s. 83. It is in consequence of the many notices which had to be given that the form of this sub-section was radically altered in 1922. If general orders are promulgated to cover general procedure, coupled with special orders in individual cases, there should be no doubt about the notice reaching the correct person—generally the Electric Inspector within whose jurisdiction the accident occurs.

Sub-section (2).

Inquiries.—It has been suggested that the Electrical Inspector should be authorized to take signed statements from witnesses and interested parties, as is the case in Great Britain, *vide* section 22 of the *Factory and Workshops Act, 1901*, “power to direct formal investigation into accidents.” This seems desirable.

Clause (b). Any person.—This includes employees.

34. (1) No person shall, in the generation, transmission, supply or use of energy, permit any part of his electric supply-lines to be connected with earth except so far as may be prescribed in this behalf or may be specially sanctioned by the Local Government.

Sec. 34.
Prohibition
of connection
with earth,
and power
for Govern-
ment to
interfere
in certain
cases of
default.

(2) If at any time it is established to the satisfaction of the Local Government—

- (a) that any part of an electric supply-line is connected with earth contrary to the provisions of sub-section (1) or
- (b) that any electric supply-lines or other works for the generation, transmission, supply or use of energy are attended with danger to the public safety or to human life or injuriously affect any telegraph-line, or
- (c) that any electric supply-lines or other works are defective so as not to be in accordance with the provisions of this Act or of any rule thereunder,

the Local Government may, by order in writing, specify the matter complained of and require the owner or user of such electric supply-lines or other works to remedy it in such manner as shall be specified in the order, and may also in like manner forbid the use of any electric supply-line or works until the order is complied with or for such time as is specified in the order.

PART IV.

Cf. Indian Elec. Act, 1903, s. 29. See Introduction, paragraphs 22 and 36.

Sec. 34.

Breach of the provisions of this section renders the defaulter liable to a fine which may extend to one hundred rupees and a daily fine which may extend to twenty rupees (section 47), while failure to comply with an Order under sub-section (2) carries with it a fine which may extend to one thousand rupees and also a daily fine which may extend to one hundred rupees—section 42 (c). Should the license be rendered liable to revocation by any such act the imposition of penalties does not affect this liability—see section 48.

Sub-section (1).

No person.—The provision is not limited in its application to licensees.

Except in so far as may be prescribed.—That is to say by rules, which legalize the usual cases where connection to earth is technically necessary or desirable.

The Local Government.—In the Indian Electricity Act, 1910, the Governor-General in Council appeared here; the substitution was made by the Devolution Act, 1920 (XXXVIII of 1920).

Sub-section (2).

By an amendment of section 55 in the Indian Electricity (Amendment) Act, 1922, the Local Government can delegate its powers under this sub-section to the Electric Inspector; it will be observed that (a), (b) and (c) apply to "the owner or user," where owner is not confined to its defined meaning. Thus the consumer in the Rangoon case (page 156 *et seq.*) clearly committed a breach of all three clauses.

Clauses (b) and (c). Works.—The definition in section 2 (n) includes "electric supply-lines," which are here added to show specifically that the clause applies to works not belonging to licensees. The term "works" is in fact used in its ordinarily accepted, and not in its defined, meaning.

Human life.—These words in clause (b) were added in re-enacting the Act in 1910, as the "public safety" would not necessarily be held to cover the safety of employees.

Any telegraph-line.—*Cf.* sections 17 and 32. Telegraph-lines, owing to the fact that they use the earth as a return circuit, are peculiarly liable to "interference." See para. 36 of the introduction.

Clause (c).—This clause practically follows the English Law, *cf.* 62 and 63 Vict., cap. 19, Sch. cl. 69 (1) (b), except that it is not limited to licensees.

An action by the Electrical Inspector, Madras, against the Madras Electric Supply Corporation, decided by the Chief Presidency Magistrate, Madras (Calendar No. 16,543 of 1924, dated Nov. 17th, 1924), turned partly on this sub-clause and also on rule 26. It was stated that the mains from a certain sub-station were already overloaded, and that there was insufficient spare plant in this sub-station, and that therefore Rule 26 would be infringed if more consumers were connected to the same. An Order was issued accordingly. The court held that the Order was defective on technical grounds, and dismissed the summons for failing to comply with an Order; but the defendant was found to have failed to comply with rule 26 in two cases and was fined Rs. 250 on each count. It is perhaps worthy of record that, as the conviction was for a breach of a *rule*, the maximum penalty is that laid down in rule 107, *mz.*, Rs. 100. There was no doubt a "continuing breach," which would warrant the fine inflicted; but the judgment does not say so.

As to accidents, see the preceding section 33.

Sections 35 to 38.—Administration and Rules.

PART IV.

This heading covers sections 35 to 38 inclusive. See Introduction, paragraphs 24 to 26.

35. (1) The Governor-General in Council may, for the whole or any part of British India, and each Local Government may, for the whole or any part of the province, by notification in the *Gazette of India* or the local official Gazette, as the case may be, constitute an Advisory Board. Sec. 35.
Advisory
Boards.

(2) Every such Board shall consist of a chairman and not less than two other members.

(3) The Governor-General in Council or the Local Government, as the case may be, may, by general or special order,—

- (a) determine the number of members of which any such Board shall be constituted and the manner in which such members shall be appointed,
- (b) define the duties and regulate the procedure of any such Board,
- (c) determine the tenure of office of the members of any such Board, and
- (d) give directions as to the payment of fees to, and the travelling expenses incurred by, any member of any such Board in the performance of his duty.

Cf. *Indian Elec. Act, 1903, s. 32 and 33 (2) (j)*. See Introduction, paragraph 25.

Sub-section (3).

Sub-section (3) of the Indian Electricity Act, 1910, laid down in some detail the constitution of Advisory Boards and, possibly for that reason, no such Board was ever formed. By the Indian Electricity (Amendment) Act, 1922, that sub-section was omitted; and what is now sub-section (3) was then sub-section (4). In this re-numbered provision the new clause (a) was at the same time added, to take the place of the omitted part. Clauses (b), (c) and (d) were originally clauses (a), (b) and (c).

In the Act of 1910 the only matter in which Advisory Boards were specifically referred to was in section 38 (3), under which the expediency and suitability of all rules could be reported upon by a Board, if one were in existence. By an amendment made at the same time as those here mentioned an appeal from the decision of an Electric Inspector [section 36 (3)] may, if the Government so directs, be referred to an Advisory Board. By a similar amendment, any proposed alteration of maximum rates under clause XI of the Schedule (*q.v.*) must first be referred to an Advisory Board. Many other cases have come to the Author's notice where an Advisory Board's examination would have prevented serious mistakes being made, from lack of knowledge of business matters. It is not easy to see why no regular Advisory Board has ever been constituted under this section. The annual Conferences of Electric Inspectors which were initiated by the Author in 1915 proved of very great value to both Government and the industry, from which delegates were often sent to collaborate with the officials. Decentralization, and the abolition of the post of

PART IV. Electrical Adviser to the Government of India, left no one to take the initiative in calling these joint Conferences.
 —
 Sec. 35.

Particular attention is called to the remarks on the subject of Advisory Boards, their proper functions, and the present trend of them, in the Introduction: see paragraph 18 under "Alteration of maximum charges" and paragraph 25 under "Advisory Boards."

Sec. 36.
 Appointment
 of Electric
 Inspectors.

36. (1) The Governor-General in Council may, by notification in the *Gazette of India*, appoint duly qualified persons to be Electric Inspectors, and every Electric Inspector so appointed shall exercise the powers and perform the functions of an Electric Inspector under this Act within such areas and subject to such restrictions as the Governor-General in Council may direct.

(2) The Local Government may, by notification in the local official Gazette, appoint duly qualified persons to be Electric Inspectors within such areas as may be assigned to them respectively; and every Inspector so appointed shall exercise the powers and perform the functions of an Electric Inspector under this Act, subject to such restrictions as the Local Government may direct.

(3) In the absence of express provision to the contrary in this Act or any rule thereunder, an appeal shall lie from the decision of an Electric Inspector to the Governor-General in Council or the Local Government, as the case may be; or, if the Governor-General in Council or the Local Government, as the case may be, by general or special order, so directs, to an Advisory Board.

Cf. Indian Elec. Act, 1903, s. 32 and 33 (2) (i). See Introduction, paragraph 25.

Sub-sections (1) and (2).

There are fourteen administrations having the status of a Local Government as defined in the General Clauses Act (see Introduction, paragraph 29), and it would be an uneconomical arrangement for the smaller ones to have each their own Electric Inspector; consequently many administrations have so far been without one, borrowing an expert when they needed the services of one. Sub-section (1) contemplates the appointment of Government of India Inspectors, and one such, for Mines, has been appointed. Railway administrations also have their Inspectors.

Duly qualified persons.—Power is retained in section 37 (2) (i) to prescribe by rule the qualifications to be required of Electric Inspectors, whether Imperial or Provincial; see rule 3. The smooth working of the Act depends to no small extent on the appointment of suitable men to these posts, a point frequently urged by the Chambers of Commerce consulted in regard to rules and cognate matters.

Within such areas.—The area of the charge is to be fixed by the Governor-General in Council or the Local Government, as the case may be; there is no reason why more

than one Electric Inspector, whether Imperial or Provincial, should not be appointed in any particular area, such as a Province; in such a case the jurisdiction of each could be restricted, so as to avoid the overlapping of functions, as has been done in the case of Mines and Railways.

PART IV.

Sec. 36.

Subject to such restrictions.—Where any act is laid down as his statutory duty the Electric Inspector must perform it, but otherwise his duties are to be decided upon by the Government appointing him. In most cases a single officer combines the statutory duties of Electric Inspector with the non-statutory work of Electrical Engineer to Government; and in the latter capacity his work is advisory only.

Sub-section (3).

The provision enabling Government to delegate to an Advisory Board the duty of hearing an appeal from the decision of an Electric Inspector was added to this sub-section by the Indian Electricity (Amendment) Act, 1922.

37. (1) The Governor-General in Council may make rules, for the whole or any part of British India, to regulate the generation, transmission, supply and use of energy, and, generally, to carry out the purposes and objects of this Act.

Sec. 37.
Power for
Government
to make
rules.

(2) In particular and without prejudice to the generality of the foregoing power, such rules may—

- (a) prescribe the form of applications for licenses and the payments to be made in respect thereof;
- (b) regulate the publication of notices;
- (c) prescribe the manner in which objections with reference to any application under Part II are to be made;
- (d) provide for the preparation and submission of accounts by licensees in a specified form;
- (e) provide for the securing of a regular, constant and sufficient supply of energy by licensees to consumers and for the testing at various parts of the system of the regularity and sufficiency of such supply, and for the examination of the records of such tests by consumers;
- (f) provide for the protection of persons and property from injury by reason of contact with, or the proximity of, or by reason of the defective or dangerous condition of, any appliance or apparatus used in the generation, transmission, supply or use of energy;
- (g) for the purposes of electric traction regulate the employment of insulated returns, or of uninsulated metallic returns of low resistance, in order to prevent fusion or injurious electrolytic action of, or on, metallic pipes, structures or substances, and to

PART IV.

Sec. 37.

minimise, as far as is reasonably practicable, injurious interference with the electric wires, supply-lines and apparatus of parties other than the owners of the electric traction system, or with the currents therein, whether the earth is used as a return or not ;

- (h) provide for preventing telegraph-lines and magnetic observatories or laboratories from being injuriously affected by the generation, transmission, supply or use of energy ;
- (i) prescribe the qualifications to be required of Electric Inspectors ;
- (j) authorize any Electric Inspector or other officer of a specified rank and class to enter, inspect and examine any place, carriage or vessel in which he has reason to believe any appliance or apparatus used in the generation, transmission, supply or use of energy to be, and to carry out tests therein, and to prescribe the facilities to be given to such Inspectors or officers for the purposes of such examinations and tests ;
- (k) authorize and regulate the levy of fees for any such testing or inspection and, generally, for the services of Electric Inspectors under this Act ; and
- (l) provide for any matter which is to be, or may be, prescribed.

(3) Any rules made in pursuance of clause (f) or (h) of sub-clause (2) shall be binding on the Crown.

(4) In making any rule under this Act, the Governor-General in Council may direct that every breach thereof shall be punishable with fine which may extend to three hundred rupees, and, in the case of a continuing breach, with a further daily fine which may extend to fifty rupees.

(A. *Indian Elec. Act, 1903, s. 33.* See *Introduction, paragraph 26.*

This section invests the Governor-General in Council with the sole power of making rules. The necessity for continuing the rule-making power of Local Governments, contained in the Act of 1903, was not proved, and no such rules were in fact made under that Act. Further, the change is in the interests of the commercial community, who desire to have as far as possible uniform rules throughout British India, a result which can only be secured if all rules are made by the same authority.

Sub-section (2).

Clauses (a), (b) and (c).—These only concern licensed undertakings ; see section 3, sub-sections (1) and (2) (a) of the Act and the rules in Appendix I, Nos. 9 to 22.

Clause (d).—See section 11; clauses II and III of the Schedule in paragraph 19 of the Introduction; and rule 31. The rules provide for the use of forms similar to the (British) Ministry of Transport “forms of accounts” for local authorities and companies respectively. The forms of accounts, in their present revised shape, will be found annexed to the rules in Appendix I to this volume; Annexure IV is the form for local authorities, divided up under eight sub-headings, and Annexure V is that for Companies, with nine sub-headings.

Clause (e).—*Vide* sections 21, 24, 42 (b); Schedule clauses VI (I), VIII (I), XIII and XIV; also rules 23 *et seq.* in Appendix I. The notes on Clause XIII of the Schedule may also be referred to.

Clause (f).—*Vide* sections 18, 19, 33, 34, 42 (c) and Schedule clauses XIV and XV. Rules of this nature (*vide* Chapter V of the rules in Appendix I) are in force both as regards licensed undertakings and persons supplying, transmitting or using energy under Part III of the Act. Persons using energy may be “consumers” as defined, or those receiving a supply otherwise than from licensees; this clause is comprehensive in its scope. Doubt was thrown on the responsibility of consumers for the observance of rules applying to “the person to whom the same belongs,” as regards faulty apparatus, by the Electric Inspector, Burma, in the Rangoon case reported in paragraph 33 of the Introduction (*q.v.*). It is perfectly clear.

Clause (g).—*Vide* sections 32, 34 and 42 (c). The special rules under this clause, relating to electric traction on tramways using energy under Part III of the Act, will be found in Chapter V of the rules in Appendix I. Electric railways or electric tramways *subject to the Indian Railways Act, 1890*, are not subject to the rules under this particular clause; see first proviso to section 30 and Introduction, paragraphs 34–36. Except as regards “energy used for the public carriage of passengers, animals or goods on, or for the lighting or ventilation of the rolling stock of” such railways or tramways, they are, however, subject to the rules; as, *e.g.*, those made under clauses (f), (h), (j) and (k). See also section 30 (3).

As noted in the Introduction, most tramways come under the various Tramways Acts and *not* under the Indian Railways Act, so that they are subject to these rules.

Insulated returns.—Where the traffic on a tramway line is so heavy that the bonded rails alone are unable to transmit the return current, without infringing the rules as to current density or the allowable drop of potential in the rails, the modern practice is to lay insulated return cables to certain points on the system and there to connect these cables to the rails, employing a negative “booster” to tap the current from the rails and thus bring the earth return current and fall of potential within the permissible limits. See rules 74, 75 in Appendix I.

Uninsulated metallic returns of low resistance.—This, in plain English, means the tramway rails. The rails must be bonded at the joints, which would otherwise offer a high resistance and cause the return current to seek an alternative path through water pipes, etc. It is generally necessary also to cross-connect the several rails at intervals, as this minimises the effect of faulty bonds.

Electrolytic action.—See Introduction, paragraph 36.

Clause (h). Telegraph-lines.—See sections 17 and 32 and the rules in Appendix I.

Magnetic observatories or laboratories.—In Great Britain there is a special provision in most tramway orders to the general effect that when the use of electrical power is likely injuriously to affect any instruments or apparatus, whether electrical or not, used in any observatory or laboratory, the Ministry of Transport may require the company to use such reasonable and proper precautions—including insulated returns—as the Ministry may deem necessary. So long as earthed returns are used, delicate magnetic instruments in the neighbourhood must necessarily be affected, and trouble has been experienced both in England and in India from this cause.

PART IV.

Sec. 37.

A Special Committee was convened by Government to discuss this matter in 1901, but no suggestions of value emerged from its deliberations. No special rules have hitherto been made, and the difficulty appears to have settled itself. Removal of the observatory is the only radical cure.

Clause (i).— See Chapter 2 of the rules in Appendix I. See also Introduction, paragraphs 24, 25.

Clause (j). *Other officer of a specified rank or class.*—It may prove impossible for Electric Inspectors to carry out all inspections in person, in addition to the other duties (statutory and otherwise) which they are in practice called on to perform (see Introduction, para. 25). In Great Britain the inspection of factories, as regards electrical works, does not come under the Electricity Commissioners, who administer the Electric Lighting Acts, but under the Home Office. The Chief Electrical Inspector to that office would be unable to carry out a tithe of the necessary inspections himself, but subordinate Inspectors report to him and he is thus enabled to personally look into special cases of accidents and so forth. The same procedure will be found necessary in India as the use of electricity increases. As to the relation between the head of an office and his subordinates, see section 19 (1) of the General Clauses Act, 1897, on page 147 *ante*.

Clause (k).—The practice as to levying fees for inspection differs greatly at present in various provinces, but ultimately it is hoped that uniformity may be secured in the matter; see rules 4 and 5 in Chapter 2 of the rules in Appendix I.

Clause (l).—This was added by the Indian Electricity (Amendment) Act, 1922, as certain matters are left to be "prescribed" by rule; see, e.g., section 19-A. It would appear that sub-section (1) of section 37 would have sufficed; but the words "generally to carry out the purposes and objects of this Act" seem to have no precise legal significance.

Sub-section (3).

The maximum penalty for breach of a rule is three hundred rupees, but the rules themselves may prescribe different maxima, not exceeding this limit, for the breach of various rules (see rules 106, 106-A and 107). It need hardly be added that the amount of a fine actually to be inflicted on an offender is entirely a matter for the Court which tries him. See Chapter VI (Penalties and Miscellaneous) of the rules in Appendix I.

Sec. 38.
Further
provisions
respecting
rules.

X of 1897.

38. (1) The power to make rules under section 37 shall be subject to the condition of the rules being made after previous publication.

(2) The date to be specified in accordance with clause (3) of section 23 of the General Clauses Act, 1897, as that after which a draft of rules proposed to be made under section 37 will be taken into consideration shall not be less than three months from the date on which the draft of the proposed rules was published for general information.

(3) Any rule to be made under this Act shall, before it is published for criticism under sub-section (2), be referred to the Advisory Board (if any) constituted for the whole of British India, or, if no such Board has been constituted, then to such Board or Boards (if any) as the Governor-General in Council may direct; and the rule shall not be so

published until such Board or Boards (if any) has or have reported as to the expediency of making the proposed rule and as to the suitability of its provisions.

(4) All rules made under section 37 shall be published in the *Gazette of India*, and on such publication shall have effect as if enacted in this Act.

(4. *Indian Elec. Act, 1903, s. 34. See Introduction, paragraphs 26 and 29.*

Sub-section (1).

Previous publication.—The meaning of this phrase is explained by section 23 of the General Clauses Act, 1897, which will be found set out in full in paragraph 29 of the Introduction, together with various other provisions of that Act, relating to rules.

Sub-section (3).

Advisory Board.—See section 35: the object of the compulsory submission of draft rules to an Advisory Board, where one has been constituted for the whole of British India, or to such other Board or Boards as the Governor-General in Council may direct, is solely for the purpose of ensuring as far as possible that the rule shall be practically efficient. Government is not in any way bound to accept the recommendations of any Board, though in practice such recommendations would doubtless be seldom disregarded. Hitherto no formal Advisory Board has been constituted for this particular purpose; but at every revision of the Act or Rules a Committee of Amendment or some such body has been entrusted with the task of advising Government. In particular, the Annual Conferences of Electric Inspectors and Electrical Engineers to Government took a large share in this work, as will be seen from the Reports * of the same. These Conferences appear to have ceased between 1918 and 1928.

Sub-section (4).

Shall have effect as if enacted in this Act.—Immediately on the publication of any rule in the *Gazette of India* it becomes part and parcel of the Act and must be complied with just as strictly as any section of the Act itself. In the past many delays and annoyances have occurred which might have been obviated had the parties concerned only realised this. Non-compliance with rules has been most apparent in the case of application for licenses; intending applicants, thinking no doubt that it is sufficient to comply with the spirit and not the letter of a rule, have frequently submitted faulty applications which Government have had no alternative but to return for amendment on purely legal grounds.

Criminal Offences and Procedure.

The italic heading "Criminal Offences and Procedure" comprises sections 39 to 50. In the Act of 1903, a single section of inconvenient length comprised all the penal provisions; these were, in 1910, made into separate sections, each with its marginal heading. Several amendments were made in 1922, as will be seen in the following notes on clauses. For a general discussion of the provisions see paragraph 27 of the Introduction.

39. Whoever dishonestly abstracts, consumes or uses any energy shall be deemed to have committed theft within Sec. 39.
Theft of
energy.

* Reports of the First, Second, Third and Fourth Conferences, 1915, 1917, 1928; Superintendent of Government Printing, India, Calcutta.

PART IV.

Sec. 39.

LV of 1860.

the meaning of the Indian Penal Code ; and the existence of artificial means for such abstraction shall be *prima facie* evidence of such dishonest abstraction.

Cf. Indian Elec. Act, 1903, s. 39 (1).

Dishonest abstraction of energy need not necessarily be accompanied by any injury to the works by means of which that energy is supplied. In Great Britain it has been decided that gas may be a subject of larceny (*Reg. v. White*, 22 L.J. M.C. 123) although no express provision to that effect is contained in the British Gas Works (Clauses) Acts. It is probable that the fact that electrical energy is not material, and cannot be measured in cubic feet, was responsible for the insertion of a special provision as to its theft in the (British) Electric Lighting Act of 1882. The section here dealt with follows on much the same lines, except that the word "dishonestly" takes the place of "maliciously or fraudulently." See also sections 48 to 50, and the notes on section 44 (b).

Indian Penal Code (Act XLV of 1860) : see sections 379 (Punishment for theft) and 380 (Theft in dwelling-house, etc.).

By the Indian Electricity (Amendment) Bill, 1921, the latter part of this section was re-cast on the lines of the latter part of section 44 *post*, but the proposed change was thrown out in Select Committee. In the clearest cases of theft conviction can seldom be brought home. The consumer, *who could alone benefit from the theft*, could plead that the "artificial means of abstraction" were not used with his knowledge, and as no one was ever detected in *flagrante delicto* of inserting artificial means the "whoever" of the section remained, and still remains, unknown. Abortive prosecutions have shown that the words "shall be *prima facie* evidence" are a bar to obtaining convictions. It is obvious that the general body of honest consumers suffer in the long run from these unpunished thefts : but "East is East." The alternative of prosecution under section 44 should be noted.

It may be well here to point out the difficulties that have been experienced in obtaining a conviction under this section and its predecessors. The commonest forms of theft of electricity are as follows :—

(a) An application has been made for a supply and a service line has been laid up to the meter board, where the terminal points are sealed up. The licensee, before testing the installation and connecting it up through the meter, awaits the receipt of a "test form," which gives particulars of the installation and states the results of tests made by the contractor who has done the wiring work. The prospective consumer, however, does not submit a test form, but fraudulently connects his installation, or causes it to be connected, to the service-lines the meter being left out altogether. This can be done by passing wires through the service cables, without interfering with the seals, and connecting them to the installation terminals.

(b) An installation has been tested and passed by the licensee, a service line laid, and the meter connected up ; the energy consumed, or part of it, is then fraudulently diverted by means of a shunt or by-pass, so that it does not pass through the meter. This has been done, *e.g.*, by passing a wire through the two wires entering and leaving the meter, the diversion offering a path of lower resistance to the current than the meter itself.

As regards (a) it may of course be urged that the licensee is to some extent to blame in not keeping the consumer under observation and in not ascertaining why he delays the sending in his "test form" ; but, however this may be, let it be supposed that the licensee has reason to believe that a theft such as is indicated at (a) is in fact being perpetrated. He would send round an inspector to examine the installation

(section 20), but the connection might well be so contrived that the wires could easily be withdrawn, leaving little trace of their ever having been inserted. Any such trace could, however, under expert examination, show whether it had probably been caused by "artificial means of abstraction." Evidence would also have to be obtained that lights had been seen burning or fans revolving in the house, but any such evidence, would, from its very nature, be open to criticism; and the Court require strong proof on the subject before ordering a conviction. In a case such as is described above action might, of course, be taken against the consumer under section 44; this has, in fact, been the more usual course.

So far as case (b) is concerned on the licensee's suspicion being aroused he would send round an inspector to examine the installation (section 20) and possibly an examination might reveal such a state of affairs as is explained. Here a sudden drop in the consumption measured by the meter would be corroborative evidence. The important question then arises, who is responsible for such a state of affairs? It can readily be understood that great difficulty would be experienced in obtaining direct evidence to support a prosecution—here, as in case (a), it is possible to withdraw the wire at a moment's notice, leaving little trace—and in the absence of any direct, or of the strongest circumstantial evidence, the Court would not convict. The difficulties with which a licensee has to contend naturally increase where the house in which a theft is suspected is a hotel, boarding-house or other large establishment.

It must be remembered, in both the above cases (a) and (b), that an abetment of an offence renders the abettor liable to be punished with the punishment provided for the offence. See the Indian Penal Code (Act XLV of 1860), section 109.

The case *Delhi Electric Traction and Lighting Co. v. Ram Richhpal and Ram Gopal* illustrated some of the above difficulties. The two brothers named were prosecuted by the licensee for theft of energy and were convicted and sentenced, under section 379 of the Indian Penal Code, read with the section under discussion, by Mr. D. Johnstone, Magistrate, 1st class, to pay a fine of Rs.500 each or in default to undergo rigorous imprisonment for one month. On appeal, Mr. G. S. Dundas, Sessions Judge, affirmed the judgment of the lower court. The case was then carried to the Chief Court of the Punjab,* where the previous convictions were set aside by the Hon'ble Mr. Shah Din, Judge. The facts found by the lower courts were admitted, namely, that the insulation had been removed in three places from the wires at the main cut-outs, so that current could be obtained which would not pass through the meter.

The following extracts from the judgment of the Chief Court will sufficiently illustrate the case:—

"There is no evidence that either on the 17th or 18th, or indeed on any other date before or after the said dates, any of the Company's officers saw a wire connecting one of the bare places on the wire which did not pass through the meter and the bare place on the other wire which passed through it, so that it could be definitely said that artificial means for the abstraction of energy existed at any time at the house of the petitioners. It is not disputed by the learned counsel for the prosecution that the uninsulated or bare places which were found on the 17th and 18th August on the two wires from the main cut-out could not be made use of by the consumer without the aid of a connecting wire for the purpose of abstracting the energy; and, that being the case, I am unable to see how it can be said that 'artificial means for the abstraction of energy' existed at the house of the petitioners on the dates in question, which under section 39 of Act IX of 1910, must be deemed to be *prima facie* evidence of dishonest

* Report of the First Conference of Electric Inspectors and Electrical Engineers to Government, 1915, page 20.

PART IV.
—
Sec. 39.

abstraction. In my opinion the words 'the existence of artificial means for such abstraction,' used in section 39, means the existence of complete as distinguished from partial, incomplete 'artificial means' for the abstraction of energy; and it seems to me that judged by that test the mere existence of a certain number of bare places on the two wires from the main cut-out in the petitioner's house did not amount to the existence of artificial means for the abstraction of electrical current such as would be *primâ facie* evidence of dishonest abstraction within the meaning of section 39 of the Electricity Act."

Continuing, the learned Judge discussed the bearing of the fact that the two brothers were presumably members of a joint Hindu family and that :—

"both have been convicted of the offence of theft, simply and solely on the ground that in the house occupied by them there existed (according to the Prosecution) artificial means for the abstraction of electrical energy. It is not known which of the two petitioners is the Manager of the family or carries on the business of commission agents, which is understood to be the business of the family, or is the registered consumer of the electrical energy supplied to the house, and it is not clear on what principle both have been convicted under section 379, Indian Penal Code. The record shows that the meter and the two wires from the main cut-out which were found to have been tampered with were on the top of the house, and they would thus be accessible not only to the petitioners but also to other members of the family and to their servants. Under section 39 of the Electricity Act it is only the person who dishonestly abstracts, consumes or uses any energy that can be deemed to have committed theft within the meaning of the Indian Penal Code; and assuming that there existed, as alleged by the Prosecution, artificial means for the abstraction of energy on the top of the petitioner's house, is the Court justified in presuming that both the petitioners or one of them had brought into existence the said artificial means for the abstraction of energy, and that, therefore, both of them were, or one of them was, guilty of such dishonest abstraction as is mentioned in the section? If the petitioners are guilty of theft under the circumstances stated why not the other members of their family; and if only the head of the family is presumed to have brought into existence artificial means for the abstraction of energy which are *primâ facie* evidence of dishonest abstraction, why should both the petitioners not be held equally guilty under section 379, Indian Penal Code?"

Continuing, the learned Judge discussed the meaning of the words "the existence of artificial means for such abstraction shall be *primâ facie* evidence of such dishonest abstraction" and pointed out that the section did not explicitly say that the existence of artificial means for abstraction should be *primâ facie* evidence against the consumer, but against the person who was in possession of those artificial means, or who had brought them into existence, and who might "conceivably be different from a person who consumes or uses energy." After comparing the wording of section 39 with that of section 44, and pointing out the greater definiteness of the latter, the judgment of the lower courts was set aside in its entirety.

In the *Rangoon Electric Tramway and Supply Coy. v. M. S. Shah* the Sub-Divisional Magistrate convicted the defendant of theft of energy and sentenced him to a fine of Rs.300 or six months' rigorous imprisonment. On appeal* to the Chief Court of Lower Burma Mr. Justice Twomey upheld the conviction and

* Report of the Second Conference of Electric Inspectors and Electrical Engineers to Government, 1916, page 79.

sentence, remarking that the defendant should consider himself lucky in not being sent to jail. The facts were briefly as follows :—

The defendant owned two adjoining houses, living in one and letting the other. The tenant in the second house had two lamps connected to defendant's installation and paid the defendant a fixed sum per month for them, so that it was immaterial to him how the current was obtained. There was one meter for the two buildings. It was proved beyond doubt that on January 12th, 1915, the lights in the 29th Street house were burning and one of the lights in the Dalhousie Street house was also burning, while the main switch in Dalhousie Street house was "off" and the meter in that building was not registering. It was also shown that there was a device in the 29th Street premises by which the wiring of both the premises was capable of being easily connected with, or disconnected from, the disused overhead service line in 29th Street, so that energy could be taken at will for both the premises independently of the Dalhousie Street underground main and without the Dalhousie Street meter registering any consumption. From the fact that the Dalhousie Street main switch was "off," and that lights were burning in both houses, it followed clearly that energy was being abstracted without payment from the 29th Street overhead service line by the illicit device referred to above. *The only person who could profit by that fraud was the accused, the owner of the premises, and there was a very strong presumption that the device referred to was put in under his instructions.* It was pleaded in defence that he had no electrical knowledge and that some person who had such knowledge and who also bore him ill-will must have made that device to get him into trouble. He went so far as to say he knew nothing about the main switch. His Honour thought he was rightly disbelieved. The offence was in His Honour's opinion clearly established against the accused. (The italics are the Author's.)

Two further convictions for theft of energy, both from the Cawnpore Electric Supply Corporation, have been obtained since the previous edition of this work was published, one of them having novel features of great ingenuity. In *King-Emperor v. Ram Dayal*, tried before Mr. D. S. Barron, I.C.S., first class Magistrate, Cawnpore (Case 382, 1929), the accused was charged under section 379 of the Indian Penal Code, read with section 39 of this Act, and also with a second charge under section 41. The accused's father kept a dispensary, with shops over it, and the son was the consumer, and supplied his father and the other tenants—owing to the fact that previously the father had been cut off for non-payment. Finding the consumption much below expectation, the licensee examined the house, and found that the meter had been short-circuited through a switch, so that it could be cut out of circuit at will; and the dispensary and shops (which had been connected up without notice) were paying accused for energy which he fraudulently obtained. The accused pleaded guilty, and was sentenced to three months "simple imprisonment" and a fine of Rs.100 under section 39 and to a further fine of Rs.50 under section 41.

In *King-Emperor v. Swami Dayal* before the same Court (Case 471, 1929) the accused owned a flour mill, which was consuming some 1400 units a month for power when he took it over in July, 1928, and up to October of that year. In the latter month, a lighting circuit was installed in the mill. Thereafter the consumption declined until in March, 1929, only 48 units were registered for power. A surprise visit paid by an officer of the licensee disclosed the fact that the power meter was not registering at all, though the mill was working, but the accused promptly shut down, saying he had finished grinding. Requested to start up again "light," i.e. without the grinding machinery, accused did so after operating some switches, whereupon the meter registered. It was then found that by suitable manipulation this meter could be cut out of circuit. Accused then switched on the motor and machinery without the starter, and blew the fuses. After replacement, the police witness was

PART IV.

Sec. 39.

shown how the meter could be cut out at will. It was eventually found, after dismantling the installation, that a tapping had been taken from a switch in the lighting circuit to one of the fuses in the power switchboard, the wire (which came direct from the supply, and not through any meter) replacing the corresponding power wire which did pass through the power meter. A switch made or broke connection at will. The motor circuit had also been tampered with, the original connections to the circuit having been changed and the seal broken and replaced by one of different date. The accused fell back on the old plea that "an enemy hath done this"—a very common defence in the unchanging East—and produced accounts to prove that the lower consumption was due to a falling off of business; but these accounts showed only the amount of grain milled, and not the money paid out or taken. The Magistrate said, "The prosecution evidence is clear and beyond suspicion; accused has done nothing to shake it. His accounts are of a most curious nature, and I very much doubt their genuineness. . . . The conduct of the accused clearly shows that he was fully cognisant of what was going on when the theft was discovered." Accused was sentenced to one year's "rigorous imprisonment" and to pay a fine of Rs.500, or a further six months in default.

The action of the licensee's staff, especially in taking a police officer to witness the investigation, was such as to leave no loophole for escape from a Court of Justice. The accused was seen manipulating the gear which enabled him to get a free supply, and it was then operated by the licensee's staff. No doubt there would often be difficulty in doing this, as previous cases cited above show; but the offence is so common that it should be possible to cope with it.

Sec. 40.

Penalty for maliciously wasting energy or injuring works.

40. Whoever maliciously causes energy to be wasted or diverted or, with intent to cut off the supply of energy, cuts or injures, or attempts to cut or injure, any electric supply-line or works, shall be punishable with imprisonment for a term which may extend to two years, or with fine which may extend to one thousand rupees, or with both.

Cf. *Indian Elec. Act, 1903, s. 39 (2)*. See also sections 48 to 50 of the present Act.

Maliciously.—Licensees wished this section to be extended to cover such acts when done mischievously. This was unnecessary, as acts so done are punishable already under sections 425, 426, 427 of the Indian Penal Code, where "mischief" is also defined.

With intent to cut off the supply.—In Great Britain a discharged employé was sentenced to 9 months' imprisonment for opening the field circuit of a tramway generator with the intention of cutting off the supply.—*The Electrician*, Jan., 1904, pp. 462, 502). So far as the licensee is concerned, it matters little whether the intention is to cut off the supply or not, seeing that the supply will be cut off if a supply-line is cut. Cutting with this intention occurred on the first public supply undertaking in India, and was traced to the persons who had hitherto supplied oil for the public lamps—see notes on section 45. But more serious instances have occurred where bare overhead lines have been deliberately cut, with a view to stealing the copper. In such a matter there would be no negligence (section 46). The remedy here would be for theft under the Indian Penal Code, not under the Indian Electricity Act. In one of the Indian States, the telephone wires carried on the posts for transmission were so cut and stolen; but this ceased after a connection was made to the high-tension lines at night.

41. Whoever, in contravention of the provisions of section 28, engages in the business of supplying energy, shall be punishable with fine which may extend to three thousand rupees, and, in the case of a continuing contravention, with a daily fine which may extend to three hundred rupees.

PART IV.

Sec 41.

Penalty for unauthorized supply of energy by non-licensees.

See *Introduction*, paragraph 20.

This matter is fully discussed in the *Introduction*; see also sections 48 to 50.

42. Whoever—

- (a) being a licensee, save as permitted under section 27 or section 51 or by his license, supplies energy or lays down or places any electric supply-line or works outside the area of supply; or,
- (b) being a licensee, in contravention of the provisions of this Act or of the rules thereunder or in breach of the conditions of his license and without reasonable excuse, the burden of proving which shall lie on him, discontinues the supply of energy or fails to supply energy; or
- (c) makes default in complying with any order issued to him under section 34, sub-section (2);

Sec. 42

Penalty for illegal or defective supply or for non-compliance with order

shall be punishable with fine which may extend to one thousand rupees, and, in the case of a continuing offence or default, with a daily fine which may extend to one hundred rupees.

Cf. Indian Elec. Act, 1903, s. 39 (3). See also sections 48 to 50 of the present Act.

Clause (a). *Save as permitted.*—Section 27 allows energy to be supplied by a licensee, outside his area of supply, under certain conditions. Section 51 enables Government to empower a licensee to exercise the powers of the telegraph authority, as to placing lines and posts, for the purposes of a transmission of power line; and these powers would generally be confined to places outside the area of supply. Where these last-mentioned powers are not given the licensee may authorize the licensee to connect his area of supply with his generating station outside the same, under the ordinary provisions of the Act as to works; or, similarly, to connect two parts of the area of supply separated by an intervening area [section 3 (1)].

Supplies energy . . . or lays down . . . works outside the area of supply.—See definition of “area of supply” [section 2 (a)] and note on the same, *ante*. An important case bearing on this matter is quoted in Will’s “The Law Relating to Electric Lighting, Power and Traction,” by Dalton, 5th edition, p. 128. A gas company at the request of a railway company, placed a meter on a part of a railway station lying within the gas company’s limits, and through it supplied gas to other parts of the premises situated outside the gas company’s limits and within the limits of another gas company. The Court of Appeal held this to be lawful, on the ground that the sale and delivery of the gas took place at the meter; but the House of Lords reversed this decision, holding that the gas was supplied where it was consumed, and therefore that the company were transgressing their authorized limits

ART IV.
—
sec. 42.

(*Gas Light & Coke Co. v. South Metropolitan Gas Co.*, 62 L.T. 126; 5 T.L.R. 731). This case has a bearing also on section 19-A of the Act (*q.v.*), as to the point where a supply is delivered.

In *Attorney-General (at the relation of the Weybridge Urban District Council) v. Urban District Supply Co., Ltd.*, the same principle has been affirmed as regards electricity. An injunction was granted restraining the company from supplying energy outside its area of supply, and also from breaking up streets within that area for the same purpose. The neighbouring local authority, Walton, whom it was sought to supply, had the right to light its streets (*The Electrician*, August 5th, 1904, p. 650). Later the Walton order was taken over by the company, but it was then held that the supply of energy was illegal as the company was "associating itself with" another company without the necessary sanction. A Bill was promoted in Parliament to deal with the situation (*The Electrician*, March 31st, 1905, p. 971).

In *Attorney-General (at the relation of the Willesden Urban District Council) v. The Metropolitan Electric Supply Co., Ltd.* (L.R. 1905, 1 Ch. 757) the company desired to supply energy to the L. & N.-W. Railway Company from the generating station at Willesden, which had been erected in pursuance of a Special Act. Both the generating station and the railway were outside the area of supply of the special order, and an injunction was granted (*The Electrician*, November 4th, 1904, p. 112).

Clause (b).—In the Act of 1903 failure or discontinuance of supply could be dealt with only under the general penal clause corresponding to section 47 of the present Act. In the case of wilful or unreasonably prolonged failure to supply, the license can be revoked under section 4 (1) (a) in addition to the imposition of a fine (section 48).

Discontinues the supply of energy or fails to supply energy.—The obligation to supply and continue to supply is laid down in clauses VI, VIII and IX of the Schedule to the Act; and this penal clause must be read with the words in clause VI (1) that "the licensee shall supply and, save in so far as he is prevented from doing so by cyclones, floods, storms or other occurrences beyond his control, continue to supply energy." Some cases dealing with this matter in the United Kingdom are cited by Will's "Law Relating to Electric Lighting, Power and Traction," 5th edition, p. 155, and though the law of the two countries is by no means identical, the cases referred to will perhaps serve as a guide to the general principles involved. "Where there is no special contract between the undertakers and the consumer obliging the former to give a supply, the latter cannot maintain an action for damages for failure to supply; his only remedy is to proceed for penalties under this section (*i.e.*, Schedule, s. 30 of the Electric Lighting (Clauses) Act, 1899); but if there is such a contract, the consumer may maintain an action for damages for its breach, and is not limited to proceedings for penalties. This is certainly so where the consumer would not be entitled to demand a supply apart from the agreement, and is probably so where he would be so entitled" (*loc. cit.*, p. 155). In India, a contract is required under the clauses quoted in this note.

A cable laid down proved defective, and the supply of energy thus broke down. This was held to be "inevitable accident" (*Sun Insurance Co. v. Dublin Corporation*—*The Electrician*, December 9th, 1899, p. 240).

The Metropolitan Electric Supply Co. were summoned by the Marylebone Vestry and Guardians for making default in supplying electrical energy to the workhouse and vestry on certain days. The company admitted the default and contended that the same was due to inevitable accident, caused by the great increase in the demand for electricity, which had exceeded their expectations. The case was adjourned for three months (*Marylebone Vestry v. Metropolitan Electric Supply Co.*—*The Electrician*, January 5th, 1900, p. 375). Ultimately small fines were imposed (*Journal of Gas Lighting*, May 1st, 1900, p. 1236).

The keeper of a licensed house at Deptford summoned the London Electric Supply Corporation for failure to supply electric energy to his premises. The default was admitted, but the defence was *force majeure*, it being contended that the supply of electricity having become deficient owing to unavoidable causes, it became essential that some part of the district of the company should be cut off and that Deptford was selected as causing the least public inconvenience. The full penalty of forty shillings was inflicted in each of seven cases with twenty guineas costs in the first case and two shillings costs in each of the others (*Shaddick v. London Electric Supply Corporation—Journal of Gas Lighting*, May 8th, 1900, p. 1235).

PART IV.
Sec. 42.

Note, however, that section 30 of the Electric Lighting Clauses Act, 1899, under which this prosecution took place, differs somewhat from the clause under discussion. It provides that "whenever the undertakers make default in supplying energy to any owner or occupier of premises, to whom they may be and are required to supply energy under the Special Order, they shall be liable in respect of each default to a penalty not exceeding forty shillings for each day on which the default occurs," with a similar provision as to each public lamp for each day.

The same company were summoned at the instance of the London County Council for failure to supply certain public offices. The defence was *force majeure*. The magistrate found that there was no evidence of negligence. The summons was dismissed (*London County Council v. London Electric Supply Corporation—Journal of Gas Lighting*, May 1st, 1900, p. 1135).

Clause (c).—Section 34 prohibits unauthorized connection of circuits with earth, whether by licensees or others, and also gives Government a general power to interfere where any works for the generation, transmission supply or use of energy are attended with danger to the public safety, or to human life, or to any telegraph line. The notes on this section may be referred to.

43. Whoever, in contravention of the provisions of section 30, transmits or uses energy without giving the notice required thereby, shall be punishable with fine which may extend to five hundred rupees, and, in the case of a continuing offence, with a daily fine which may extend to fifty rupees.

Sec. 43.
Penalty for illegal transmission or use of energy.

Cf. *Indian Elec. Act, 1903, s. 39 (4)*. See *Introduction, paragraph 21*.

This section provides a penalty for persons transmitting or using energy, within the meaning of section 30 of the Act, who fail to give notice; the notes on that section should be read. Non-compliance with the rules is provided for in section 37 (3), and breach of the provisions of Part IV (so far as these are applicable) could be dealt with under section 47.

Transmits energy.—For a case where a fatal shock accident was caused by a defective and unearthed stay wire supporting an aerial line illegally transmitting energy in a street, see *King-Emperor v. Rangoon Electric Tramway & Supply Co.*, in paragraph 33 of the Introduction. The owner of the line was not prosecuted.

Sec. 44.

44. Whoever—

- (a) connects any meter referred to in section 26, sub-section (1), or any meter, indicator or apparatus referred to in section 26, sub-section (7), with any

Penalty for interference with meters or licensee's works and for improper use of energy.

PART IV.

Sec. 44.

electric supply-line through which energy is supplied by a licensee, or disconnects the same from any such electric supply-line, without giving to the licensee forty-eight hours' notice in writing of his intention ; or

(b) lays, or causes to be laid, or connects up any works for the purpose of communicating with any other works belonging to a licensee, without such licensee's consent ; or

(c) maliciously injures any meter referred to in section 26, sub-section (1), or any meter, indicator or apparatus referred to in section 26, sub-section (7), or wilfully or fraudulently alters the index of any such meter, indicator or apparatus, or prevents any such meter, indicator or apparatus from duly registering ; or

(d) improperly uses the energy of a licensee ;

shall be punishable with fine which may extend to five hundred rupees, and, in the case of a continuing offence, with a daily fine which may extend to fifty rupees ; and if it is proved that any artificial means exist for making such connection as is referred to in clause (a) or such communication as is referred to in clause (b) or for causing such alteration or prevention as is referred to in clause (c) or for facilitating such improper use as is referred to in clause (d) and that the meter, indicator or apparatus is under the custody or control of the consumer, whether it is his property or not, it shall be presumed, until the contrary is proved, that such connection, communication, alteration, prevention or improper use, as the case may be, has been knowingly and wilfully caused by such consumer.

Cf. Indian Elec. Act, 1903, s. 39 (5). See Introduction, paragraph 18.

Clause (a).—Section 26 (5) forbids the acts for committing which a penalty is provided in this clause. It is not necessary that there should be any intention of fraud ; where a supply is demanded in terms of clause VI or clause IX of the Schedule the licensee must be given an opportunity of examining the installation. It is not customary for the consumer in any case to connect the meter, but if it is his own property [section 26 (1) and (3)] he may do so after giving 48 hours' notice. The prohibition extends only to the meter by which the charges for energy are to be assessed ; the consumer has the absolute right [section 21 (1)] to connect up any other meter or apparatus he chooses, whether for measuring or regulating the supply or for recording the current, pressure, maximum demand, etc., so long as he does not contravene the proviso to that section and the second sub-head (b) of the second proviso to clause VI (1) of the Schedule. Such apparatus would clearly have to be connected up on the consumer's side of the meter, so that any energy used to actuate it would pass through the meter and be paid for.

Clause (b).—An offence committed within the meaning of this clause might bring the offender within the scope of section 39 (Theft of energy), but the act would then have to be dishonestly committed, and the actual abstraction of energy would have to be proved. The notes on that section should be read. A certain number of convictions have been obtained under the present section when the charge under section 39 could not be proved to the satisfaction of the Court.

Clause (c).—In Great Britain section 38 of the Gas Works Clauses Act, 1871, which is incorporated in the Electric Lighting Acts, deals *inter alia* with injury to meters; and the defaulter is there liable to pay to the undertakers a sum of five pounds for every offence, in addition to any damages.

Ibid. Prevents . . . from registering.—A maximum demand meter, depending for its action on the rise of temperature due to a larger current, has been prevented from registering by means of a block of ice placed near it!

Clause (d).—See also section 21 (1) proviso, and the second proviso to clause VI (1) of the Schedule. In Great Britain there is specific provision for offences committed with a view to circumventing the proper operation of special methods of charging (section 18 of the Gas Works Clauses Act, 1847, incorporated in the Electric Lighting Acts). In section 23 (3) (c) of the Indian Electricity Act, 1910, as amended by the Indian Electricity (Amendment) Act, 1922 (when the provision was transferred from clause X of the Schedule), special methods of charge approved by Government are contemplated. One such method is the making of a contract with the consumer to supply energy for a lump sum monthly or quarterly per motor, lamp or other apparatus of a given rating or candle power; other methods limit the hours of use of the energy or depend on the maximum demand or the load factor [section 23 (4)]. Such methods of charge are lawful if made by agreement between the parties or if approved by Government. The use of a current consuming apparatus of larger size, or for longer hours, than is provided by the contract would be improper use of energy within the meaning of the section 44 (d). Similarly the use of energy, supplied at a special rate for power purposes, to light premises through the medium of a motor generator would be improper use of energy [section 23 (2)]; in Great Britain a clause to prohibit this particular use was refused by the House of Commons Committee on the Ealing Company's Bill, on the ground that the general law was sufficient (*The Electrician*, April 7th, 1905, p. 1020). Section 23 (2) of the Indian Electricity Act prohibits such action more definitely than any provision in the English Acts. This point is discussed in paragraph 18 of the Introduction.

Artificial means.—In connection with sub-clauses (a), (b), (c) and (d) the latter part of the section as to the existence of "artificial means" should be read. This was redrafted by the Indian Electricity (Amendment) Act, 1922, as it was found insufficient to make the existence of artificial means *prima facie* evidence. The wording generally is based on section 36 of the Gas Works Clauses Act, 1871, which is incorporated in the British Acts.

45. Whoever maliciously extinguishes any public lamp shall be punishable with imprisonment for a term which may extend to six months, or with fine which may extend to three hundred rupees, or with both. Sec. 45.
Penalty for
extinguish-
ing public
lamps.

Cf. Indian Elec. Act, 1903, s. 39 (6).

Circumstances might easily arise in which the extinguishing of a series of public lamps [see definition, s. 2 (k)] would be a very serious offence. A longer term of imprisonment might be given under section 40 if the offence came under that provision also.

Maliciously.—As regards such acts done "mischievously" see note under section 40, *supra*.

PART IV

Sec. 46.
Penalty for
negligently
wasting
energy or
injuring
works.

46. Whoever negligently causes energy to be wasted or diverted, or negligently breaks, throws down or damages any electric supply-line, post, pole or lamp or other apparatus connected with supply of energy, shall be punishable with fine which may extend to two hundred rupees.

Cf. Indian Elec. Act, 1903, s. 39 (7).

In Great Britain there is no penalty for this offence, but the incorporated section 20 of the Gas Works Clauses Act, 1847, provides for the payment of a "sum of money by way of satisfaction to the undertakers for the damage done, not exceeding five pounds." In a case under that section it was held that the common law right to recover damages by action was not ousted by this section (*Crystal Palace Gas Co. v. Idris* (1900), 82 L.T. 200). Presumably under the Indian Electricity Act also the owner of the damaged apparatus could sue for damages. See section 48 as to compensation.

Sec. 47.
Penalty for
offences not
otherwise
provided for.

47. Whoever, in any case not already provided for by sections 39 to 46 (both inclusive), makes default in complying with any of the provisions of this Act, or with any order issued under it, or, in the case of a licensee, with any of the conditions of his license, shall be punishable with fine which may extend to one hundred rupees, and, in the case of a continuing default, with a daily fine which may extend to twenty rupees :

Provided that, where a person has made default in complying with any of the provisions of sections 13, 14, 15, 17 and 32, as the case may be, he shall not be so punishable if the Court is of opinion that the case was one of emergency and that the offender complied with the said provisions as far as was reasonable in the circumstances.

Cf. Indian Elect. Act, 1903, s. 39 (8).

This section imposes a penalty for all breaches not otherwise specially provided for, i.e., default in complying with the Act or with an order under the Act both as to licensees (Part II), suppliers under special sanction (section 27), users under Part III (who are not licensed), consumers, local authorities and the general public ; and, in the case of a licensee, as to his license, which is deemed to include the schedule to the Act. It will be noticed that certain breaches of the rules are specifically provided for by section 37 (3) and in Chapter VI of the rules themselves ; other rules have no specific penalty attached, and it is presumed that in those cases this section, 47, would apply, seeing that the rules "have effect as if enacted in this Act."

Provided that.—The sections mentioned in the proviso deal with new works ; alteration of pipes or wires ; laying supply-lines, etc., near other works ; notice to telegraph-authority ; protection of telegraphic and other signalling.

Sec. 48.
Penalties not
to affect
other
liabilities.

48. The penalties imposed by sections 39 to 47 (both inclusive) shall be in addition to, and not in derogation of, any liability in respect of the payment of compensation or,

in the case of a licensee, the revocation of his license, which the offender may have incurred.

PART IV.
Sec. 48.

Cf. Indian Elec. Act, 1903, s. 39 (9). See Introduction, paragraph 27.

Compensation.—See section 19 of the Act and paragraph 15 of the Introduction.

Revocation.—See section 4 of the Act and paragraph 9 of the Introduction.

49. The provisions of sections 39, 40, 44, 45, and 46 shall, so far as they are applicable, be deemed to apply also when the acts made punishable thereunder are committed in the case of energy supplied by, or of works belonging to, the Government.

Sec. 49.
Penalties where works belong to Government.

Cf. Indian Elec. Act, 1903, s. 39 (10). See Introduction, paragraphs 24 and 27.

Government itself obviously *requires* no license, though a case is cited on page 126 where the Punjab Government has, in fact, licensed one of its own Departments to distribute energy from its hydro-electric scheme on the Uhl River in Mandi State; and, where it purchases an undertaking from a licensee, the license shall "so far as the Local Government is concerned, cease to have any further operation." [sections 5 (e) (ii) and 7 (3) (b)]. The provisions of the license, however, remain in force so far as consumers are concerned, so long as Government retains possession of the undertaking. In such a case, or equally in the case of an undertaking belonging to Government *ab initio*, these penalties can be incurred; not necessarily by virtue of the license remaining partially in force, but by virtue of this section.

So far as they are applicable.—Sections 39, 40, 45, and 46 are wholly applicable as they stand. In section 44 the references to licensees, and to meters and works, must be construed as meaning the Government, and the meters and works of Government respectively.

50. No prosecution shall be instituted against any person for any offence against this Act or any rule, license or order thereunder, except at the instance of the Government or an Electric Inspector, or of a person aggrieved by the same.

Sec. 50.
Institution of prosecutions.

Cf. the Indian Mines Act, 1901, s. 23, and s. 41 of the Indian Mines Act, 1923, which has replaced the former.

This section has for its object the prevention of vexatious prosecutions. The words "a person aggrieved by the same" are, however, open to very wide construction. A prosecution instituted at the instance of the Government or an Electric Inspector would be quasi-criminal and the Legal Remembrancer would presumably be the officer to take action; a great responsibility is therefore thrown on that officer, seeing that his expert and impartial evidence is almost certain to be accepted against that of a defendant. See paragraph 25 of the Introduction, "Electric Inspectors," and paragraph 33, *ibid*.

Sections 51 to 58.—Supplementary.

51. Notwithstanding anything in sections 12 to 16 (both inclusive) and sections 18 and 19, the Local Government may, by order in writing, for the placing of appliances and

Sec. 51.
Exercise in certain cases of powers of telegraph authority.

PART IV
 Sec 51

apparatus for the transmission of energy, confer upon any public officer or licensee, subject to such conditions and restrictions (if any) as the Local Government may think fit to impose, and to the provisions of the Indian Telegraph Act, 1885, any of the powers which the telegraph authority possesses under that Act, with respect to the placing of telegraph lines and posts for the purposes of a telegraph established or maintained by the Government or to be so established or maintained.

Cf. Indian Elec. Act, 1903, s. 35. See Introduction, paragraph 12.

Powers were granted in several instances under section 35 of the Indian Electricity Act, 1903, which corresponded to the one under discussion as well as under the present section; a selection from the notifications from the *Gazette of India* are set forth below. In the first of these the powers were general, the high tension lines passing through Mussoorie itself; and they were sought and granted owing to the opposition of property owners to the proposed lines. The undertaking in this case was a municipal one. No right to insert conditions existed when this notification was issued. As suggested in paragraph 12 of the Introduction, it seems doubtful if the phrase "transmission of energy" should be interpreted in its widest sense, as including distributing mains; the powers would more generally be reserved for what are commonly known as "transmission of power lines," connecting a distant generating station with the distributing centre. In the last two cases, the powers were given for long transmission lines terminating near the boundary of the city.

NOTIFICATIONS UNDER THE INDIAN ELECTRICITY ACT, 1903

Public Works Department Notification No. 18, dated the 18th February, 1909.

"In exercise of the powers conferred by section 35 of the Indian Electricity Act, 1903 (III of 1903), the Governor-General in Council is pleased to confer upon the Municipal Board of Mussoorie, the licensee under the Mussoorie (Municipal) Electric License, 1908, for the placing of appliances and apparatus for the transmission of energy for the purpose of the construction and maintenance of high and low tension electric supply lines in connection with the undertaking, the powers which the telegraph authority possesses under sections 10 to 19 of the Indian Telegraph Act, 1885 (XIII of 1885), with respect to the placing of telegraph lines and posts for the purposes of a telegraph established or maintained by the Government or to be so maintained or established. The exercise of the powers hereby conferred is subject to the provisions of the said Indian Telegraph Act, 1885."

Similar powers were granted to the Municipal Commissioners of Darjeeling and to the Municipal Commissioners of Simla, under the Act of 1903, the former were cancelled and re-granted under the present Act.

NOTIFICATIONS UNDER THE INDIAN ELECTRICITY ACT, 1910.

Notification No. 8, dated 28th February, 1914, by the Government of India, Public Works Department.

"In exercise of the powers conferred by section 51 of the Indian Electricity Act, 1910 (IX of 1910), the Governor-General in Council is pleased to confer upon the Chief Commissioner, Delhi, for the placing of appliances and apparatus for the transmission of energy required for general constructional purposes in connection with

the building of New Delhi, the powers which the telegraph authority possesses under sections 10 to 19 of the Indian Telegraph Act, 1885 (XIII of 1885), with respect to the placing of telegraphic lines and posts for the purposes of a telegraph established or maintained by the Government or to be so established or maintained. The exercise of the powers hereby conferred is subject to the provisions of the said Indian Telegraph Act, 1885."

Public Works Department. Notification. Simla, the 10th March, 1915.

"No. 9.—Whereas in exercise of the powers conferred by section 35 of the Indian Electricity Act, 1903 (III of 1903), the Governor-General in Council is pleased, by Notification of the Government of India No. 150, dated the 1st October, 1908, to confer upon Messrs. D. G. Tata and R. J. Tata, of Bombay, the original licensees under the Bombay Hydro-Electric License, 1907, for the purposes in the said Notification mentioned, the powers possessed by the telegraph authority under sections 10 to 19 inclusive of the Indian Telegraph Act, 1885 (XIII of 1885).

"And whereas the benefit of the said license is now vested in the Tata Hydro-Electric Power Supply Co., Ltd. (hereinafter called 'the Company').

"And whereas since the date of the above Notification the said Indian Telegraph Act, 1885, has been amended by the Indian Telegraph (Amendment) Act, 1914 (VII of 1914), and the Company has petitioned the Government of India to extend the powers conferred by the said Notification so as to include the privileges comprised in section 19-A of the said Indian Telegraph (Amendment) Act, 1914.

"Now it is hereby notified that in supersession of the said Notification No. 150, dated the 1st October, 1908, and in exercise of the powers conferred by section 51 of the Indian Electricity Act (IX of 1910), the Governor-General in Council is pleased to confer, subject to the said Indian Telegraph Act, 1885, upon the company, for the placing of appliances and apparatus for the transmission of energy for the purpose of its undertaking between the terminal points following, viz., the Generating Station near Khopoli in the Karjat Taluka of the Kolaba Collectorate as shewn on the deposited map marked B and the Receiving Station near Sewrec Cemetery within the area of supply as shown on the deposited map, and as near as circumstances admit along the actual route specified in the said deposited map or such other route as may be decided upon by the Governor-General in Council, the powers which the telegraph authority possesses under sections 10 to 19 inclusive of the said Indian Telegraph Act, 1885, and under section 19-A of the Indian Telegraph (Amendment) Act, 1914, with respect to the placing of telegraph lines and posts for the purposes of a telegraph established or maintained by the Government or to be so established and maintained."

Government of India, Board of Industries and Munitions. Notification No. A-72, dated Delhi, the 2nd February, 1921.

"In exercise of the powers conferred by section 51 of the Indian Electricity Act, 1910 (IX of 1910), the Governor-General in Council is pleased, subject to the conditions specified in Schedule I annexed thereto to confer upon the Andhra Valley Power Supply Company, Limited, the licensees under the Andhra Valley (Hydro-Electric) License, 1919, for the placing of appliances and apparatus for the transmission of energy for the purpose of their undertaking, between the points specified in Schedule II annexed hereto and, as near as circumstances admit, along the actual route specified in the deposited map as defined in sub-clause (5) of clause 2 of the said license or along such other route as may be decided upon by the Governor-General in Council, the powers which the telegraph authority possesses under sections 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 and 19-A of the Indian Telegraph Act, 1885 (XIII of 1885),

PART IV.

Sec. 51.

with respect to the placing of telegraph lines and posts for the purposes of a telegraph established or maintained by the Government or to be so established or maintained."

SCHEDULE I.

Conditions.

- "(a) The telegraph and telephone lines crossing the Company's lines shall be efficiently guarded to the satisfaction of the telegraph authority and of the Government of Bombay, and
- "(b) All such crossings shall be at right angles, or as near to right angles as practicable.

SCHEDULE II.

Local limits.

"From the generating station near Bhivpuri, in the Karjat Taluka of the Kolaba Collectorate to and up to the receiving station at Dharavi within the area of supply, and from such receiving station to any place included in the area of supply."

Telephones.—It has been suggested that this section should be added to, with a view to giving licensees the power to construct and work a private telephone system connecting the various parts of their "works," without the necessity, as at present, of obtaining a license from the telegraph authority to do so. Every large undertaking needs such a system for its efficient working, and many have it. Such an amendment would simplify matters.

Notwithstanding.—The sections which may be overridden when powers are given under section 51 are discussed in the Introduction, paragraphs 11 (as to works), 14 (aerial lines) and 15 (compensation).

The Local Government.—The Governor-General in Council was the authority under the Acts of 1903 and 1910; the Local Government was substituted by the Indian Electricity (Amendment) Act, 1922.

Subject to such conditions and restrictions.—The powers which may be conferred are very sweeping, and it will sometimes be necessary to impose conditions for the protection of the public. The powers then granted will refer to specific works, on a route described and shown on a map, unless there are special circumstances justifying the grant of more general powers. This is shown in the last case quoted above.

Any of the powers.—Not necessarily *all* the powers, even "with respect to the placing of telegraph lines and posts." These words in any case limit the grant to Part III of the Indian Telegraph Act, sections 10 to 19-B, which are set forth in full in paragraph 12 of the Introduction.

The Indian Telegraph Act, 1885.—The provisions with respect to the placing of (telegraph) lines and posts are set out in full in paragraph 12 of the Introduction. By an amendment of the Act in question (by Act VII of 1914) two new sections, 19-A and 19-B, were added.

Sec. 52.
Arbitration.

52. Where any matter is, by or under this Act, directed to be determined by arbitration, the matter shall, unless it is otherwise expressly provided in the license of a licensee, be determined by such person or persons as the Local Government may nominate in that behalf on the application of

either party ; but in all other respects the arbitration shall be subject to the provisions of the Indian Arbitration Act, 1899. PART IV.
Sec. 52.
IX of 1899.

Cf. Indian Elec. Act, 1903, s. 36. See Introduction, paragraph 23.

The matters which are directed to be determined by arbitration will be found set out in the Introduction, *loc. cit.*, together with a précis of the Indian Arbitration Act.

53. (1) Every notice, order or document by or under this Act required or authorized to be addressed to any person may be served by post or left,— Sec. 53.
Service of
notices,
orders or
documents.

- (a) where the Government is the addressee, at the office of such officer as the Governor-General in Council or the Local Government, as the case may be, may designate in this behalf ;
- (b) where a local authority is the addressee, at the office of the local authority ;
- (c) where a company is the addressee, at the registered office of the company or, in the event of the registered office of the company not being in India, at the head office of the company in India :
- (d) where any other person is the addressee, at the usual or last known place of abode or business of the person.

(2) Every notice, order or document by or under this Act required or authorized to be addressed to the owner or occupier of any premises shall be deemed to be properly addressed if addressed by the description of the "owner" or "occupier" of the premises (naming the premises), and may be served by delivering it, or a true copy thereof, to some person on the premises, or, if there is no person on the premises to whom the same can with reasonable diligence be delivered, by affixing it on some conspicuous part of the premises.

Cf. Indian Elec. Act, 1903, s. 37.

For the meaning of "served by post" and for the definitions of "Government," "local authority," "company," and "person" see extracts from the General Clauses Act, 1897, in paragraph 29 of the Introduction. Notices are only "served by post" if sent by *registered letter*.

54. Every sum declared to be recoverable by section 5, clause (f), section 6, sub-section (2), section 14, sub-section (2), clause (h), section 16, sub-section (2), section 18, sub-section (2) or sub-section (4), or section 26, sub-section (4), Sec. 54.
Recovery of
sums recov-
erable under
certain pro-
visions of
Act.

PART IV.

Sec. 54.

and every fee leviable under this Act, may be recovered, on application to a Magistrate having jurisdiction where the person liable to pay the same is for the time being resident, by the distress and sale of any moveable property belonging to such person.

Cf. Indian Elec. Act, 1903, s. 38.

Every sum recoverable.—It will be seen that the clauses here enumerated do not include those under which compensation is payable, for which see paragraph 15 of Introduction.

Every fee leviable.—Power for Government to “authorize and regulate the levy of fees for testing or inspection and, generally, for the services of Electric Inspectors under this Act” is given in section 37 (2) (k). See Chapter 2 of the rules in Appendix I. Fees for tests carried out at laboratories would be payable in advance.

By the distress and sale.—The Licensee’s apparatus on the premises of the consumer is protected from attachment under section 25.

Sec. 55.

Delegation of certain functions of Local Government to Electric Inspectors.

55. The Local Government may, by general or special order, authorize the discharge of any of its functions under section 13 or section 18, or section 34, sub-section (2), or clause V, sub-clause (2), or clause XIII of the Schedule by an Electric Inspector.

Cf. Indian Railways Acts, 1890, s. 25. See Introduction, paragraphs 24 and 25.

The matters which may be delegated by this section are of a technical nature, and must of necessity be dealt with either by Electric Inspectors or on their advice. The subject matter is as follows :—

Section 13 (1) (b).—Appeal against disapproval of repairing authority, as to new works.

Section 13 (3), Proviso.—Consent to the using of a temporary aerial line longer than six weeks.

Section 18 (1) and (2).—General approval of system of aerial lines, and power to order removal of such lines where general approval has not been given.

Section 34 (2).—Dangerous or defective works; illegal or unauthorized connection with earth; or works not in accordance with the Act, the rules and the license.

Schedule, clause V.—Settlement or submission to arbitration, of disputes as to the laying down of mains under requisition.

Clause XIII.—As to testing stations.

Sec. 56.

Protection for acts done in good faith.

56. No suit, prosecution or other proceeding shall lie against any public officer, or any servant of a local authority, for anything done, or in good faith purporting to be done, under this Act.

Cf. Indian Elec. Act, 1903, s. 41.

Good faith.—This is defined by the General Clauses Act, X of 1897, section 3 (20), “a thing shall be deemed to be done in ‘good faith’ where it is in fact done honestly, whether it is done negligently or not.” Compare the (British) Public Authorities Protection Act, 1893 (56 & 57 Vict. c. 61).

57. (1) In section 40, sub-section (1), clause (b), and section 41, sub-section (5), of the Land Acquisition Act, 1894, the term "work" shall be deemed to include electrical energy supplied, or to be supplied, by means of the work to be constructed.

PART IV.

Sec. 57.

Amendment of the Land Acquisition Act, 1894.

I of 1894.

(2) The Local Government may, if it thinks fit, on the application of any person, not being a company, desirous of obtaining any land for the purposes of his undertaking, direct that he may acquire such land under the provisions of the Land Acquisition Act, 1894, in the same manner and on the same conditions as it might be acquired if the person were a company.

I of 1894.

The reasons for inserting this section will be found in the "Notes on Clauses" attached to the Bill; *vide* paragraph 7 of the Introduction, p. 23 (Clause 57).

The provisions have been modified so as to give electrical companies the benefit of the Land Acquisition Act if they can show that *the energy supplied* by means of the proposed work will prove useful to the public and that the public will be entitled to use *such energy* on certain terms.

This section is discussed at length in the Introduction, paragraph 13: a summary of the provisions of the Land Acquisition Act will also be found in that place so far as they are applicable to cases arising under this Act. The amendment is general, and is not necessarily confined to persons subject either to Part II or Part III of this Act. That is to say, land could be acquired for a person whose undertaking is not licensed, and to whom neither section 29 nor 30 of the Act applies, owing to there being no breaking up of streets for the purposes mentioned in the former section, *i.e.*, the business of supplying energy, and no transmission or use of energy in the places enumerated in the latter section. Of course a private individual could not avail himself of the Act for private supply. He must prove that the work, *i.e.*, the supply of energy, will be useful to the public; an undertaking sanctioned under section 28 would come within this condition.

Sub-section (2).

Compare the Indian Tramways Act, 1886, s. 7 (3). Licenses are usually applied for by, and granted to, individuals or business firms; transfer to a company is effected later; see section 9 of Indian Electricity Act, 1910. Questions of land acquisition for electrical undertakings, and especially for hydro-electric projects, should always be the subject of separate agreements, even though these are entered into simultaneously with other agreements, *e.g.*, for the use of a particular water-power site.

58. (1) The Indian Electricity Act, 1903, is hereby repealed:

Sec. 58.

Repeals and savings.
III of 1903.

Provided that every application for a license made and every license granted under the said Act shall be deemed to have been made and granted under this Act.

(2) Nothing in this Act shall be deemed to affect the terms of any license which was granted, or of any agreement which was made, by or with the sanction of the Government for the supply or use of electricity before the commencement of this Act.

PART IV.

Cf. Indian Elec. Act, 1903, s. 42. See Introduction, paragraph 37.

Sec. 58.

It will be observed that the Acts repealed by section 42 of the Act of 1903 are not mentioned, but they remain repealed none the less under the provisions of section 7 (1) of the General Clauses Act, and the "saving" in the proviso to section 42 (1) of the repealed Act is in no way affected by the present section. The general effect of this section on licensees under the Act of 1903, and on persons having licenses or agreements of date prior to the commencement of that Act, is discussed in paragraph 37 of the Introduction. Attention may, however, again be called to the saving clause in these old licenses relating to future legislation, quoted in that paragraph.

Sub-section (2). Electricity.—Throughout the Act the term "energy," as defined in section 2 (g) is used; but "electricity" is here used because it was the term in the repealed Electricity Act, 1887.

THE SCHEDULE.

Provisions to be deemed to be incorporated with, and to form part of, every license granted under Part II, so far as not added to, varied or excepted by the license.

[See section 3, sub-section (2), clause (f).]

Comments
on preamble
to Schedule.

Section 3 (2) (f) of Part II of the Act enacts that—

"the provisions contained in the Schedule shall be deemed to be incorporated with, and to form part of, every license granted under this Part, save in so far as they are expressly added to, varied or excepted by the license, and shall, subject to any such additions, variations, or exceptions, which the Local Government is hereby empowered to make, apply to the undertaking authorized by the license :

"Provided that, where a license is granted in accordance with the provisions of clause IX of the Schedule for the supply of energy to other licensees for distribution by them, then, in so far as such license relates to such supply the provisions of clauses IV, V, VI, VII, VIII and XII of the Schedule shall not be deemed to be incorporated with the license."

The Schedule itself is never printed in a license, the section quoted above being sufficient for the purposes of incorporation, but where any addition to or variation or exception from the Schedule is to be made, a clause is inserted in the license to the following effect :—

"It is hereby declared in pursuance of section 3 (2) (f) of the Act that clause(s) * * * of the Schedule to the Act shall, for the purpose of incorporation in this license, be varied and added to so as to read as follows" (here insert the clause as varied).

In the case of very small alterations it would not be necessary to repeat the whole clause, it would suffice to use the ordinary form of *corrigenda* :—

"For the words so-and-so substitute the words so-and-so."

In the case of a clause to be omitted entirely the above form would run :—

"It is hereby declared, in pursuance of section 3 (2) (f) of the Act, that clause(s) * * * of the Schedule to the Act shall be excepted from this license."

It will be seen from the proviso to section 3 (2) (f) that where a licensee is authorized (whether solely, or in combination with ordinary supply) to supply energy to other licensees for distribution by them—*i.e.*, in the case of bulk supply—clause IX

of the Schedule automatically takes the place of clauses IV, V, VI, VII, VIII and XII. This need not therefore be specifically mentioned. In such cases, however, clause IX itself can be varied or added to, and this will probably be necessary in most cases. That clause is merely intended as a general guide to the conditions applicable. Further new clauses can also be added if required, though these would be in the nature of clauses of the license itself, not as additions to the Schedule. The model Form of License issued by the Madras Government has many such clauses, not found in the Model annexed to the Rules (Annexure III, Appendix I).

SCHEDULE.

Security and Accounts.

I. Where the licensee is not a local authority, the following provisions as to giving security shall apply, namely:—

Clause I.
Security for
execution of
works of
licensee not
being local
authority.

- (a) The licensee shall, within the period fixed in that behalf by his license, or any longer period which the Local Government may substitute therefor by order under section 4, sub-section (3), clause (b), of the Indian Electricity Act, 1910, before exercising any of the powers by the license conferred on him in relation to the execution of works, show, to the satisfaction of the Local Government, that he is in a position fully and efficiently to discharge the duties and obligations imposed upon him by the license throughout the area of supply.
- (b) The licensee shall also, within the period fixed in that behalf by his license, or any longer period which the Local Government may substitute therefor by order under section 4, sub-section (3), clause (b), of the Indian Electricity Act, 1910, and before exercising any of the powers conferred on him in relation to the execution of works, deposit or secure to the satisfaction of the Local Government such sum (if any) as may be fixed by the license or, if not so fixed, by the Local Government.
- (c) The said sum deposited or secured by the licensee under the provisions of this clause shall be repaid or released to him on the completion of the works or at such earlier date or dates and by such instalments, as may be approved by the Local Government.

Cf. Indian Elec. Act, 1903. Sch., cl. I.

Provisions as to giving security.—If these provisions, which are not applicable to local authorities, are not complied with the license can be revoked—see Introduction, paragraph 9; also section 4 (I) (c). The agreed periods and amounts mentioned in this clause should be inserted in the draft license by the applicant, in order to make

SCHEDULE. the draft as complete as possible; otherwise vexatious delays are very likely to occur. Where a deposit is made in Government securities, interest is payable on the same to the licensee.

Clause I.

Clause II.
Audit of
accounts of
licensee not
being local
authority.

II. Where the licensee is not a local authority, the following provisions as to the audit of accounts shall apply, namely :—

- (a) The annual statement of accounts of the undertaking shall, before being rendered under section 11 of the Indian Electricity Act, 1910, be examined and audited by such person as the Local Government may appoint or approve in this behalf, and the remuneration of the auditor shall be such as the Local Government may direct, and his remuneration and all expenses incurred by him in or about the execution of his duties, to such an amount as the Local Government shall approve, shall be paid by the licensee on demand.
- (b) The licensee shall afford to the auditor, his clerks and assistants, access to all such books and documents relating to the undertaking as are necessary for the purposes of the audit, and shall, when required, furnish to him and them all vouchers and information requisite for that purpose, and afford to him and them all facilities for the proper execution of his and their duty.
- (c) The audit shall be made and conducted in such manner as the Local Government may direct.
- (d) Any report made by the auditor, or such portion thereof as the Local Government may direct, shall be appended to the annual statement of accounts of the licensee, and shall thenceforth form part thereof.
- (e) Notwithstanding the foregoing provisions of this clause, the Local Government may, if it thinks fit, accept the examination and audit of an auditor appointed by the licensee.

Cf. Indian Elec. Act, 1903, Sch., cl. II. See Introduction, paragraph 19.

This clause does not apply to local authorities; the audit of their accounts is conducted under the various Municipal and other Acts.

Sub-head (a). Before being rendered under section 11.—That section, however, allows a licensee to be expressly exempted by his license, or by the Local Government, from the liability of rendering accounts.

Sub-head (c). In such manner.—There is at present no settled practice. In Great Britain the audit of the company's own chartered accountants has in the past

been accepted ; but the Ministry of Transport does not now favour this mode, and appoints independent auditors. See also clause (e) as to this.

SCHEDULE.
—
Clause II.

Sub-head (e).—The audit of a chartered accountant is often accepted in lieu of that of a Government auditor ; the latter is not accustomed to commercial accounts and is apt to pass items which should not be passed.

III. The licensee shall, unless the Local Government otherwise directs, at all times keep the accounts of the capital employed for the purposes of the undertaking distinct from the accounts kept by him of any other undertaking or business.

Clause III.
Separate
accounts.

Cf. Indian Elec. Act, 1903, Sch., cl. III.

This provision applies to a licensee who, with the necessary consent under section 9, acquires the license or undertaking of any other person or associates himself with any other person supplying, or intending to supply, energy. The notes on that section should be read. In such cases it is necessary to keep in mind the eventual purchase of the undertaking, as the value could not be assessed if the accounts were not kept distinct. It applies also, obviously, to a licensee having any other business, not necessarily electrical at all. The remarks on "combined undertakings" for general supply and electric traction, in the Introduction, paragraph 9, should be referred to. If the capital is not so kept in the accounts, it is the auditor's business to point this out—see preceding clause.

Compulsory Works and Supply.

It may be noted here that clauses IV and V of the Schedule to the Indian Electricity Act, 1903, were omitted in 1910. The new italic heading embraces clauses IV to IX.

IV. The licensee shall, within a period of three years after the commencement of the license, execute to the satisfaction of the Local Government all such works as may be specified in the license in this behalf or, if not so specified, as the Local Government may, by order in writing issued within six months of the date of the commencement of the license, direct.

Clause IV.
Execution of
work after
commence-
ment of
license.

Cf. Indian Elec. Act, 1903, Sch., cl. VI.

This section does not apply to "bulk supply," see section 3 (2) (f), proviso.

See remarks under the marginal heading "Compulsory Works" in paragraph 11 of the Introduction.

Execute . . . all such works.—See also clause 1 (a) of the Schedule, *supra*, and section 4 (1) (a) and (c) of the Act. After obtaining his license the licensee must show that he is able to carry out his obligations, and within three years from the commencement he must actually carry out such works as will satisfy Government. See also section 3 (2) (d) of the Act. A license may prescribe "the conditions under which the supply of energy is to be compulsory or permissive," i.e., it may contain the description of a "compulsory area" or a list of streets within which distributing mains must be laid within three years, leaving other streets to be dealt with by requisition under Clause V or VI.

SCHEDULE.

Clause V.

Provisions as
to laying
down of
further dis-
tributing
mains.

V. (7) Where, after the expiration of two years and six months from the commencement of the license, a requisition is made by six or more owners or occupiers of premises in or upon any street or part of a street within the area of supply or by the Local Government or a local authority charged with the public lighting thereof, requiring the licensee to provide distributing mains throughout such street or part thereof, the licensee shall comply within six months with the requisition, unless,—

- (a) where it is made by such owners or occupiers as aforesaid, the owners or occupiers making it do not, within fourteen clear days after the service on them by the licensee of a notice in writing in this behalf, tender to the licensee a written contract duly executed and with sufficient security binding themselves to take, or guaranteeing that there shall be taken, a supply of energy for not less than two years to such amount as will in the aggregate produce annually, at the current rates charged by the licensee, a reasonable return to the licensee ; or,
- (b) where it is made by the Local Government or a local authority, the Local Government or local authority, as the case may be, does not, within the like period, tender a like contract binding itself to take a supply of energy for not less than seven years for the public lamps in such street or part thereof.

(2) Where any difference or dispute arises between the licensee and such owners or occupiers as to the sufficiency of the security offered under this clause, or as to the amount of energy to be taken or guaranteed as aforesaid, the matter shall be referred to the Local Government and either decided by it or if it so directs, determined by arbitration.

(3) Every requisition under this clause shall be signed by the maker or makers thereof and shall be served on the licensee.

(4) Every requisition under this clause shall be in a form to be prescribed by rules under the Indian Electricity Act, 1910 ; and copies of the form shall be kept at the office of the licensee and supplied* free of charge to any applicant.

Cf. Indian Elec. Act, 1903, Sch., cl. VIII.

This section does not apply to "bulk supply," section 3 (2) (f), proviso.

SCHEDULE.

Clause V.

This clause deals *solely* with the provision of distributing mains under joint requisition, in streets where they do not already exist; it is *not* concerned with supply from those mains when they have been laid down except to the extent that a certain minimum consumption of energy must be guaranteed jointly, so as to give a "reasonable return" on the expenditure incurred by the licensee *in meeting the requisition*, without reference to the subsequent supply. The fact that additional plant may have to be laid down to meet the demand would not, it is submitted, be taken into consideration in assessing the capital sum on which the "reasonable return" is payable. A moment's consideration will show that, so far as the plant is concerned, the persons making the requisition for mains are in precisely the same position as other potential consumers who happen to be in a street where distributing mains are already laid; the guarantee would extend only to a reasonable return on the distributing mains specially laid down, on account of the requisition, and on any other mains or additions to mains laid down for the purpose of connecting the new distributing mains with the nearest source of supply. It is a return on capital expenditure incurred, not a special profit to the licensee. Having thus obtained distributing mains in the street, the requisitionists, as well as other owners or occupiers in the street, must comply with clause VI (1) of the Schedule (next following) in order to obtain a supply from the new mains. That is to say, each of them must make a requisition for a supply and, if required to do so, must under the first proviso to that clause enter into a contract, give *further* security, pay for the specified part of his service-line, and bind himself to take such *further* supply of energy as will also give the licensee a "reasonable return" on this additional count.

Sub-clause (1).

After the expiration of two years and six months.—In the Act of 1903 the period of grace was eighteen months only.

A requisition.—See sub-clauses (3) and (4).

Sub-head (a). A written contract.—It is left to the six or more persons who desire the mains to be laid to name the maximum amount of energy they are willing to take. It may be that the licensee will not consider that maximum such as will give him "a reasonable return," in which case the matter will be decided as provided by sub-section (2). If other consumers, unconnected with the guarantors, take a supply from these distributing mains, as they have a right to do, so that the total amount guaranteed is actually coming in, so much the better for the guarantors. The Local Government and the local authority, if owners or occupiers of premises, may join in such a requisition with private persons.

With sufficient security.—Interest would be payable on security thus deposited, if in "Government paper."

A reasonable return.—Sub-clause (2) provides for the settlement of disputes. Twenty per cent. has been taken, in Great Britain, as the return ordinarily allowable. [See the Electric Lighting Clauses Act, 1899, Sch., cl. 25 (1).]

Sub-head (b). The Local Government or a local authority.—That is to say, whichever is the "owner" or the "repairing authority" of the streets in question. In some cases terms for street lighting have been laid down in licenses. This is not desirable, as alterations can only be made by amending the license. See Clause XII of the Schedule, below.

Sub-clause (2).

The Local Government.—This function may be delegated to an Electric Inspector (section 55).

Arbitration.—See Introduction, paragraph 23, and section 52 of the Act.

SCHEDULE.

Sub-clause (4).

Clause V. The form of requisition prescribed will be found in Annexure VI to the Rules in Appendix I.

Clause VI.
Requisition
for supply to
owners or
occupiers.

VI. (1) Where, after distributing mains have been laid down under the provisions of clause IV or clause V and the supply of energy through those mains or any of them has commenced, a requisition is made by the owner or occupier of any premises situate within the area of supply requiring the licensee to supply energy for such premises, the licensee shall, within one month from the making of the requisition, or within such longer period as the Electric Inspector may allow supply, and, save in so far as he is prevented from doing so by cyclones, floods, storms or other occurrences beyond his control, continue to supply energy in accordance with the requisition :

Provided, first, that the licensee shall not be bound to comply with any such requisition unless and until the person making it—

- (a) within fourteen days after the service on him by the licensee of a notice in writing in this behalf, tenders to the licensee a written contract, in a form approved by the Local Government, duly executed and with sufficient security, binding himself to take a supply of energy for not less than two years to such amount as will produce, at current rates charged by the licensee, a reasonable return to the licensee, and,
- (b) if required by the licensee so to do, pays to the licensee the cost of so much of any service-line as may be laid down or placed for the purposes of the supply upon the property in respect of which the requisition is made and of so much of any service-line as it may be necessary for the said purposes to lay down or place beyond one hundred feet from the licensee's distributing main, although not on that property :

Provided, secondly, that the licensee shall be entitled to discontinue such supply—

- (a) if the owner or occupier of the property to which the supply is made has not already given security, or if any security given by him has become invalid or insufficient, and such owner or occupier fails to

- furnish security or to make up the original security to a sufficient amount, as the case may be, within seven days after the service upon him of notice from the licensee requiring him so to do, or
- (b) if the owner or occupier of the property to which the supply is made adopts any appliance, or uses the energy supplied to him by the licensee for any purposes, or deals with it in any manner, so as unduly or improperly to interfere with the efficient supply of energy to any other person by the licensee, or
 - (c) if the electric wires, fittings, works and apparatus in such property are not in good order and condition, and are consequently likely to affect injuriously the use of energy by the licensee, or by other persons, or
 - (d) if the owner or occupier makes any alterations of, or additions to, any electric wires, fittings, works or apparatus within such property as aforesaid, and does not notify the same to the licensee before the same are connected to the source of supply, with a view to their being examined and tested: but the licensee shall reconnect the supply with all reasonable speed on the cessation of the act or default or both, as the case may be, which entitled him to discontinue it:

Provided, thirdly, that the maximum rate per unit of time at which the owner or occupier shall be entitled to be supplied with energy shall not exceed what is necessary for the maximum consumption on his premises, and, where the owner or occupier has required a licensee to supply him at a specified maximum rate, he shall not be entitled to alter that maximum, except after one month's notice in writing to the licensee, and the licensee may recover from the owner or occupier any expenses incurred by him by reason of such alteration in respect of the service-lines by which energy is supplied to the property beyond one hundred feet from the licensee's distributing main, or in respect of any fittings or apparatus of the licensee upon that property: and

Provided, fourthly, that, if any requisition is made for a supply of energy and the licensee can prove, to the satisfaction of an Electric Inspector,—

- (a) that the nearest distributing main is already loaded up to its full current carrying capacity, or

SCHEDULE.

Clause VI.

- (b) that, in case of a larger amount of current being transmitted by it, the loss of pressure will seriously affect the efficiency of the supply to other consumers in the vicinity,

the licensee may refuse to accede to the requisition for such reasonable period, not exceeding six months, as such Inspector may think sufficient for the purpose of amending the distributing main or laying down or placing a further distributing main.

(2) Any service-line laid for the purpose of supply in pursuance of a requisition under sub-clause (1) shall, notwithstanding that a portion of it may have been paid for by the person making the requisition, be maintained by the licensee.

(3) Where any difference or dispute arises as to the amount of energy to be taken or guaranteed as aforesaid, or as to the cost of any service-line or as to the sufficiency of the security offered by any owner or occupier, or as to the improper use of energy, or as to any alleged defect in any wires, fittings, works or apparatus, or as to the amount of the expenses incurred under the third proviso to sub-clause (1), the matter shall be referred to an Electric Inspector and decided by him.

(4) Every requisition under this clause shall be signed by the maker or makers thereof and shall be served on the licensee.

(5) Every requisition under this clause shall be in a form to be prescribed by rules under the Indian Electricity Act, 1910 ; and copies of the form shall be kept at the office of the licensee and supplied free of charge to any applicant.

Cf. Indian Elec. Act, 1903, Sch., cl. IX. See Introduction, paragraph 16.

This clause does not apply to "bulk supply," see section 3 (2) (f), proviso.

See also notes to section 12 (5) of the Act.

Sub-clause (1).

A requisition.—See sub-clauses (4) and (5).

After distributing mains have been laid down . . . and the supply of energy . . . has commenced.—If this is not so—*vide* cl. IV, *supra*—the applicant may either join with five or more other persons and make a joint requisition for laying distributing mains under cl. V, *supra*, or, failing that he may make what terms he can with the licensee for laying a service-line under special agreement from the nearest main, in which case cl. VII *post* comes into operation with somewhat similar results.

Within the area of supply.—In the Act of 1910, before its amendment by the Indian Electricity (Amendment) Act, 1922, these words were represented by "within one hundred yards from any distributing main." The licensee is fully protected by the first proviso, if the application involves a very long service-line. If the consumer

finds that the cost will be excessive he can combine with the requisite number of owners and occupiers and serve a requisition for the laying of further distributing mains under clause V, *ante*, the notes on which may be read.

Or such longer period.—This phrase was added in 1922.

Shall supply and . . . continue to supply.—A penalty for failure to supply is provided in section 42 (b); see notes thereon. See also the rules in the Appendices for securing a proper and sufficient supply of energy by licensees to consumers. If these are not complied with the penalty prescribed in the rules may be imposed [sections 37 (2) (e) and 37 (3)].

Other occurrences beyond his control.—See paragraph 33 of the Introduction. Also the Licensee is not to be held responsible for any interruption of the supply due to testing, etc., by an Electric Inspector—cl. XV, *post*. In Great Britain, no penalty is to be inflicted “if the Court are of opinion that the default was caused by inevitable accident or *force majeure* or was of so slight or unimportant a character as not materially to affect the value of the supply.” Certain common occurrences of this nature are specifically mentioned in the present Act. “Occurrences beyond control” may presumably be considered synonymous with “inevitable accidents.” A defective cable, which caused the supply to break down, was held to be “inevitable accident” (*Sun Insurance Co. v. Dublin Corporation*; *Electrician*, Dec. 9th, 1899, p. 240).

First Proviso to sub-clause (1).

Sub-head (a). A written contract.—It is customary for the licensee to demand such a contract, in the form of a stamped agreement; but in many cases the document goes far beyond what is warranted by the law, as laid down in this clause and elsewhere, and is not “in a form approved by the Local Government.” The remarks in paragraph 16 of the Introduction on the so-called “rules” issued by licensees, prior to 1922, with which consumers were expected to comply, may be read. By an addition to section 21 of the Act, made by the Indian Electricity (Amendment) Act, 1922, the licensee may now issue “conditions not inconsistent with this Act, or with his license or any rules made under this Act, to regulate his relations with” consumers. An agreement once entered into, and containing no provisions in conflict with the Act, Schedule, license or rules is of course binding on both parties; but the applicant for supply could refuse to agree to conditions other than those made compulsory by the Act, as amended, and could enforce his demand for a supply on the terms laid down by the Act and no others.

A form approved by the Local Government.—It has been held by the Government of Madras that, in view of section 58 (2), these words, which were not in the Indian Electricity Act, 1903, do not apply in the case of licenses granted and still in force under that Act. No decision of a Court is available however.

With sufficient security.—Interest would be payable on security so deposited, if in “Government paper.”

A reasonable return.—See the first note on clause V, *ante*; that clause deals with the group responsibilities of the requisitionists for mains, while this one deals with the individual contract of each applicant for supply and for a service-line to convey that supply from the mains. In the majority of cases it is evident that clause V will not come into the question at all, as it is rarely used. A licensee does not need to be pressed to lay down distributing mains that are likely to prove a source of profit. The return here would be only on the cost of the additions to the mains (if any) and on the cost of the service-line, so far as this latter is paid for by the licensee—see sub-head (b) to this proviso. If there is a dispute, sub-clause (3) provides for its settlement. In Great Britain the return demanded may be at least

SCHEDULE.
—
Clause VI.

SCHEDULE. 20 per cent. on the cost of the service-lines (Electric Lighting Clauses Act, 1899, Sch., cl. 27).
 Clause VI.

Sub-head (b) ; service lines.—The applicant for supply, if required to do so (see next note, “Hire of service lines”), must pay for the whole of the service-line actually on his premises, and also for so much of it as is outside his premises but more than one hundred feet from the distributing mains. In the case of aerial lines the distance would doubtless be measured from the nearest point of support as a service-line could not (apart from rule 65) properly be attached to any point in a span. In the case of an underground network, the system of laying the mains would have to be considered. If this involves the use of special connection boxes, at frequent intervals, the nearest box might fairly be taken as the point from which the distance would be measured, whereas, in systems where the connection could be made equally well at any point on the cable, the nearest point would be the point of origin for the purpose of this measurement. The definition of a “service-line,” coupled with that of an “electric supply-line” shows that a terminal box on the consumer’s premises is included ; in Great Britain this has been held so (*Nottingham Corporation v. Cox*—*The Electrician*, November 29th, 1914, p. 264). The usual custom among supply authorities—one of doubtful validity heretofore, though it can now be made valid under section 21 (2)—is to make a fixed charge to cover connection to the supply, with an additional charge for extra long services. Only the *actual cost* is recoverable ; i.e., usually the cost of materials and erection plus (say) 15 per cent. for supervision—the latter figure is in force in Madras. And it may be safely assumed also that the cost would be for a service-line just large enough (a) to meet the applicant’s maximum demand and (b) to comply with the rules, which enforce a minimum size of wire for overhead services, for mechanical reasons. If the licensee chooses, as he will often do, to put in a larger service for future use, he may not charge the first consumer for the excess over his requirements. If the licensee’s charge is considered excessive it can be disputed, see sub-clause (3). For example, a service-line already exists in premises where there has been a change of tenant ; the supply has been cut off but the service-line has not been removed, and it has already been paid for by the outgoing tenant. The cost to the licensee in connecting up the premises afresh for a new tenant is trifling, and it is questionable whether the usual charge could be enforced. See also sub-clause (2) as to the maintenance of service-lines. A prospective consumer could put up his own electric supply-line (to function as a service line) with a meter, or provision for one, at some point *on his premises*, conveniently near the mains ; and could demand a supply at that point ; then there would be a service line up to that point *only*, and the line beyond, on the consumer’s own premises, would not be a service-line as *defined*, but only an electric supply-line belonging to the consumer.

Ibid. ; hire of service lines.—This sub-head of the first proviso gives one method by which a prospective consumer may obtain his supply ; but it does not debar other methods. As explained in the preceding note, the consumer can carry his own wiring to any point on his premises (not necessarily into his house) and can demand a supply at that point ; for example, he may obviously build a lodge or kiosk near his boundary for this special purpose or otherwise, and demand a supply to be given and metered at that point, from which he can then distribute in any manner he chooses, the licensee having no say in the matter except for certain actions with which the point of supply has nothing to do. The consumer in question might have his own generating plant, with merely a switch-controlled connection to the public supply for emergencies (see section 22) ; and it is clear that the supply lines from that plant would not constitute service lines maintainable by the licensee, as he would have nothing to do with them until an emergency connection was made to his mains. There remains, however, the actual link between the installation and

the public mains, commencing at the point where the supply is delivered (section 19—A and rule 31), and this must always be a service line, however short it be. There is nothing in the Act to prohibit the licensee from hiring out the service line, whether long or short, to the consumer, instead of making him pay for most of it; the provisions we are here concerned with are permissive, not mandatory. The consumer wants a supply and the licensee must give him a supply; these clauses lay down one legal method of procedure, but do not prohibit others equally available. The licensee usually protects himself by an agreement, and, in the case of hired service lines, it should provide for the possibility of the consumers ceasing to pay his instalments of hire; then the sum could be recovered under section 24 (1). On the other hand, a licensee could not be compelled to hire out a service line if he were doubtful of the ability or willingness of the consumer to pay the hire charge; “undue preference” applies to charges for energy, not to payments for services of this nature, which however are covered by section 24 (1).

SCHEDULE.
—
Clause VI.

Second Proviso, to Sub-clause (1).

This is a proviso to the main sub-clause, and *not* to the first proviso to that clause; it is entirely independent, and will operate whether the first proviso, which is an optional one,—“ . . . the licensee shall not be bound to . . .”—is utilized or not.

To discontinue such supply.—See also section 24 of the Act and paragraph 16 of the Introduction. The last four lines of this proviso, at the end of sub-head (d), were added by the Indian Electricity (Amendment) Act, 1922.

Sub-head (a).—Disputes as to security are to be settled under sub-clause (3).

Sub-head (b).—See section 21 of the Act. The licensee is here given the power to discontinue the supply of energy somewhat arbitrarily pending the settlement of the dispute by an Electric Inspector or by arbitration; there is nothing corresponding to section 24 (2) or 26 (4) of the Act in this place. This power may be necessary for the protection of the general body of consumers whose supply is alleged to be interfered with. It is clear, however, that, apart from any liability in the Civil Courts to which wrongful use of this power might subject the licensee, it is not to his advantage to cut off the supply without good reason, as he thereby reduces his revenue.

Sub-head (c).—The licensee examines and tests an installation before connecting it to his mains, but such examination and test *do not in any sense guarantee that the work is well done*. Section 21 of the Act prohibits the licensee from prescribing any special form of appliance for utilizing energy supplied by him, provided that no person may adopt any form of appliance so as unduly or improperly to interfere with the supply of energy to *any other person*. The words italicized are the sole criterion. It has been customary for the licensee to refuse a supply if the test of the installation did not come up to the figure laid down in the licensee’s “rules”; this was probably on the whole in the interest of both parties, and the test provided by these “rules,” though having no force in law, was usually such as would be upheld by an Electric Inspector, in case of dispute, as being reasonable. Now the conditions of supply issued by the licensee under section 21, as amended in 1922, will be valid. Rules 23 and 24 (Appendix I) lay down a statutory limit of permissible leakage. Where an installation has failed to pass the licensee’s test it is customary for the latter to charge a fee before making any subsequent tests; and the custom is reasonable. It is, however, open to any consumer to call in the Electric Inspector to settle the matter. The payment of the Inspector’s fee would fall to the lot of the party against whom the decision is given; in case of dispute, arbitration may be restored to—sub-clause (3). See Introduction, paragraph 16, “Refusing to supply.”

SCHEDULE.

Clause VI.

Sub-head (d).—The consumer should not neglect this legal obligation to notify extensions, as it is only right to inform the licensee in such cases. The latter needs the information for his book of lamp connections, for checking his street circuits and balance, and so forth, and also in order to inspect and test the extension. The sub-clause appears to give the licensee wider powers than are given by rules 23 to 26 (Appendix I).

But the licensee shall re-connect.—These words apply to the *whole* of the second proviso. They were added by the Indian Electricity (Amendment) Act, 1922.

Third Proviso.

This is almost identical with section 22 (1) of the Act of 1903, a section which was omitted from the re-enacted Act in 1910. Disputes as to the expenses of altering service-lines are provided for in sub-clause (3).

Fittings and apparatus.—This would include the “licensee’s cut-outs” (rule 38) and any apparatus of the licensee for assessing the value of the supply on an agreed method, if larger sizes had to be installed.

Fourth Proviso.

This allows the licensee to refuse supply temporarily until the mains can be “strengthened.” Abroad, where material may take months to obtain, this is only fair. At the same time it is the business of the licensee to exercise forethought, and there is no reason why the maximum period should be always allowed. Under rule 26 (Appendix I) the allowable departure from the “declared pressure” is laid down.

Sub-clause (2).

The limited extent of the licensee’s responsibility in this provision implies, in the Author’s opinion, that the licensee is not responsible for, and may not interfere with, a consumer’s private wires (aerial or otherwise) except in so far as he may be authorized to do so elsewhere in the Act; see sections 14, 15, 20, 21, 24 and 25. The ownership of a service line on a consumer’s premises has not been judicially decided in India, and legal opinion tends to vest it in the consumer who pays for it, rather than in the licensee who erects and maintains it. Some doubt has been cast on what is or is not a service line by the magistrate’s decision in *King-Emperor v. Rangoon Electric Tramway & Supply Co.*, *vide* paragraph 33 of the Introduction; but the High Court on appeal did not decide it.

Sub-clause (3).

An appeal lies from the Inspector’s decision; *vide* section 36 (3). It is clear (and has been so held by the Advocate-General, Madras), that the Electric Inspector decides these matters even when the license was granted under the Indian Electricity Act, 1903. The corresponding provision in that Act left the decision to the Local Government or arbitration; but in view of section 58 of the Act the present clause takes the place of the former one. There is nothing inconsistent with the terms of any license in this change in the Schedule incorporated in it.

Sub-clause (4).

Served on the licensee.—If served by post, see paragraph 29 of the Introduction as to registration.

Sub-clause (5).

The prescribed form will be found in Annexure VII to the rules (Appendix I).

VII. The licensee shall, before commencing to lay down or place a service-line in any street in which a distributing main has not already been laid down or placed, serve upon the local authority (if any) and upon the owner or occupier of all premises abutting on so much of the street as lies between the points of origin and termination of the service-line so to be laid down or placed twenty-one days' notice stating that the licensee intends to lay down or place a service-line, and intimating that, if within the said period the local authority or any five or more of such owners or occupiers require in accordance with the provisions of the license that a supply shall be given for any public lamps or to their premises, as the case may be, the necessary distributing main will be laid down or placed by the licensee at the same time as the service-line.

SCHEDULE.
Clause VII.
Further provisions as to laying service-lines.

Cf. *Indian Elec. Act, 1903, Sch., cl. VII.* See *Introduction, paragraph 16.*

This clause does not apply to "bulk supply," see section 3 (2) (f), proviso.

This clause imposes certain obligations on the licensee as to extending his distributing mains, if demanded in the circumstances laid down. The clause has been greatly cut down by the Indian Electricity (Amendment) Act, 1922, in consequence of the changes in clauses V and VI made at the same time.

One month's notice.—By an oversight in the Act of 1910 the period was not mentioned; the omission was corrected by the "Repealing and Amending Act, 1914" (X of 1914).

The necessary distributing mains will be laid down or placed at the same time.—In point of fact, if under requisition such mains were to be laid, it is probable that the special service-line would be abandoned and the consumer first mentioned would be connected to the new distributing mains. This is the actual intention.

VIII. (1) Where, after distributing mains have been laid down under the provisions of clause IV or clause V and the supply of energy through those mains or any of them has commenced, a requisition is made by the Local Government or by a local authority requiring the licensee to supply for a period of not less than seven years energy for any public lamps within the area of supply, the licensee shall supply, and, save in so far as he is prevented from doing so by cyclones, floods, storms or other occurrences beyond his control, continue to supply energy for such lamps in such quantities as the Local Government or the local authority, as the case may be, may require.

Clause VIII.
Supply for public lamps.

(2) The provisions of sub-clause (b) of the first proviso, of sub-clauses (c) and (d) of the second proviso, and of the third and fourth provisos to sub-clause (1) and the provisions of sub-clauses (2) and (3) of clause VI shall, so far as

SCHEDULE
—
Clause VIII.

may be, apply to every case in which a requisition for the supply of energy is made under this clause as if the Local Government or local authority were an owner or occupier within the meaning of those provisions.

Cf. Indian Elec. Act, 1903, Sch., cl. X. See Introduction, paragraph 16.

*This clause does not apply to "bulk supply," see section 3 (2) (f), proviso.
See also note to section 12 (5) of the Act.*

Sub-clause (1).

A requisition.—There is no statutory form of requisition here.

By the Local Government or by a local authority.—That is to say, whichever is the "repairing authority" of the street in question.

Not less than seven years.—In the Act of 1903 the period was one year only.

Any public lamps.—See definition of "public lamp" in section 2 (k) and notes on clause XII, *infra*.

Within the area of supply.—As in clause VI (1), *supra*, the Indian Electricity (Amendment) Act, 1922, substituted these words for the words "within the distance of 100 yards from any distributing main"; see notes on that clause.

Shall supply and . . . continue to supply.—See note on corresponding words in clause VI (1), *supra*, and also the notes on section 42 (b).

Sub-clause (2).

This incorporates by reference certain of the provisions of clause VI; see the notes on those provisions.

Supply by Bulk-licensees.

Clause IX.
Special
provisions
applying to
supply by
bulk-licen-
sees.

IX. (1) Where, and in so far as, the licensee (hereinafter in this clause referred to as "the bulk-licensee") is authorized by his license to supply energy to other licensees for distribution by them (hereinafter in this clause referred to as "distributing licensees"), the following provisions shall apply, namely:—

- (a) any distributing licensees within the bulk-licensee's area of supply may make a requisition on the bulk-licensee, requiring him to give a supply of energy and specifying the point, and the maximum rate per unit of time, at which such supply is required, and the date upon which the supply is to commence, such date being fixed after the date of receipt of the requisition so as to allow an interval that is reasonable with regard to the locality and to the length of the electric supply-line and the amount of the plant required ;
- (b) such distributing-licensee shall, if required by the bulk-licensee so to do, enter into a written agree-

SCHEDULE.

Clause IX.

ment to receive and pay for a supply of energy for a period of not less than seven years of such an amount that the payment to be made for the same at the rate of charge for the time being charged for such supply shall not be less than such an amount as will produce a reasonable return to the bulk-licensee on the outlay (excluding expenditure on generating plant then existing and any electric supply-line then laid down or placed) incurred by him in making provision for such supply ;

- (c) the maximum rate per unit of time at which a distributing-licensee shall be entitled to be supplied with energy shall not exceed what is necessary for the purposes for which the supply is required by him, and need not be increased except upon a fresh requisition made in accordance with the foregoing provisions ;
- (d) if any difference or dispute arises under this clause, it shall be determined by arbitration, and, in the event of such arbitration, the arbitrator shall have regard to the following amongst other considerations, namely :—
 - (i) the period for which the distributing-licensee is prepared to bind himself to take energy ;
 - (ii) the amount of energy required and the hours during which the bulk-licensee is to supply it ;
 - (iii) the capital expenditure incurred or to be incurred by the bulk-licensee in connection with the aforesaid supply of energy ; and
 - (iv) the extent to which the capital expended or to be expended by the bulk-licensee in connection with such supply may become unproductive upon the discontinuance thereof.

(2) Notwithstanding anything in sub-clause (1), the bulk-licensee shall give a supply of energy to any distributing-licensee within his area of supply applying therefor, even although the distributing-licensee desires to be supplied with only a portion of the energy required for distribution by him :

Provided that the distributing-licensee shall, if so required by the bulk-licensee, enter into an agreement to take such energy upon special terms (including a minimum annual

SCHEDULE. sum to be paid to the bulk-licensee) to be determined, if
 Clause IX. necessary, by arbitration in the manner laid down in sub-
 clause (1) (d).

(3) The maximum price fixed by a license for energy supplied to a distributing-licensee shall not apply to any partial supply given under sub-clause (2).

(4) Every distributing-licensee, who is supplied with energy by a bulk-licensee and intends to discontinue to receive such supply, shall give not less than twelve months' notice in writing of such intention to the bulk-licensee :

Provided that, where the distributing-licensee has entered into a written agreement with the bulk-licensee to receive and pay for a supply of energy for a certain period, such notice shall be given so as not to expire before the end of that period.

Cf. British Special "Power Acts," and in particular the Scottish Central Power Act, 1903, sections 42, 45 and 55. See also Introduction, paragraphs 17 and 20.

Under the provisions of section 3 (2) (f), proviso, this clause automatically takes the place of clauses IV, V, VI, VII, VIII and XII of the Schedule in any license authorizing "bulk supply," whether alone or in combination with other supply, in so far as the license relates to such supply. Though the terms "bulk supply" or "supply in bulk," which are used in the British Acts referred to, have not been reproduced in this enactment, the effect of the clause does not differ materially from that of the Statutes cited. A license for bulk supply was granted to the Municipal Committee of Mussoorie, in 1914, to enable the Municipality of Dehra Dun to be supplied from its hydro-electric station.

Sub-clause (1).

Where, and in so far as.—The words show plainly that the Act contemplates the grant, when necessary, of a single license authorizing the licensee to supply energy generally for all purposes as well as in bulk to other licensees for distribution by them. The Bill in fact contained a clause expressly stating this fact, but it was struck out as redundant during the passage through Select Committee. See also section 28 of the Act and paragraph 20 of the Introduction, relating to supply by non-licensees: bulk supply need not necessarily be under license, as is explained above (*loc. cit.*), and if no license has been granted the provisions of clause IX do not apply.

Distributing licensees.—This phrase is exactly equivalent to "authorized distributors" in the British Special Power Acts.

Sub-head (b).—The terms to be arranged would be a matter for agreement between the parties. Compare clause VI (1) and notes thereon. As to meters for estimating the amount of energy supplied in bulk, see notes on section 26 of the Act.

A reasonable return.—See note on the same words in the first proviso (a) to cl. VI (1), *supra*; but the present case differs from that in that any additional generating plant required to be installed, but not "then existing," may be taken into account, as well as special supply-lines and additions to mains.

Sub-head (d).—*Arbitration.*—See Introduction, paragraph 23, and section 52 of the Act.

Sub-clause (2).

SCHEDULE.

Clause IX.

A portion of the energy.—This case is of course different to that dealt with by the proviso to section 22 of the Act; but even should that case arise as between a bulk-licensee and a distributing-licensee there is nothing to prevent the parties coming to an arrangement—see notes on section 22.

Sub-clause (3).

See section 23 and Schedule, clause X, as to methods of charging, and clause XI as to maximum charges. As to the operation of a “sliding scale,” see the Introduction, paragraph 17.

Charges.

X. (1) Where the licensee charges by any method approved by the Local Government in accordance with section 23, sub-section (3), clause (c), of the Indian Electricity Act, 1910, any consumer who objects to that method may, by not less than one month's notice in writing, require the licensee to charge him, at the licensee's option, either by the actual amount of energy supplied to him or by the electrical quantity contained in the supply, and thereafter the licensee shall not, except with the consent of the consumer, charge him by another method :

Clause X.
Methods of
charging.

(2) Before commencing to supply energy through any distributing main, the licensee shall give notice, by public advertisement, of the method by which he proposes to charge for energy so supplied; and, where the licensee has given such notice, he shall not be entitled to change that method of charging without giving not less than one month's notice in writing of such change to the Local Government, to the local authority (if any) concerned, and to every consumer of energy who is supplied by him from such distributing main :

(3) If the consumer is provided with a meter in pursuance of the provisions of section 26, sub-section (1), of the Indian Electricity Act, 1910, and the licensee changes the method of charging for the energy supplied by him from the distributing main, the licensee shall bear the expense of providing a new meter, or such other apparatus as may be necessary by reason of the new method of charging.

(4. *Indian Elec. Act, 1903, Sch., cl. XI.* See Introduction, paragraph 18.

These three sub-clauses were provisos to the original clause of the Act of 1910. By the Indian Electricity (Amendment) Act, 1922, the substantive part of the Clause was transferred to the Act itself, where it is now section 23 (3). The notes on that section may be referred to.

• *Sub-clause (1).*

In Great Britain, the right here conferred of demanding to be charged on a “flat rate,” no longer exists; but a flat rate is the only one which every consumer can understand, so the right to demand it is not likely to be taken away in India.

SCHEDULE.

Sub-clause (2).

Clause X. *The method.*—The singular includes the plural (Introduction, paragraph 29) and special methods of charging for energy are almost invariably multiple.

Sub-clause (3).

A new meter.—See also remarks in the Introduction, paragraph 16, on “Alteration of the system of supply.”

Clause XI.
Maximum
charges.

XI. Save as provided by clause IX, sub-clause (3), the prices charged by the licensee for energy supplied by him shall not exceed the maxima fixed by his license, or, in the case of a method of charge approved by the Local Government, such maxima as the Local Government shall fix on approving the method :

Provided, that, if, at any time after the expiration of seven years from the commencement of the license, the Local Government considers that the maxima so fixed or approved as aforesaid should be altered, it shall refer the matter to an Advisory Board and, if the Board recommends any alteration, may make an order in accordance with such recommendation which shall have effect from such date as may be mentioned therein :

Provided, also, that, where an order in pursuance of the foregoing proviso has been made, no further order altering the maxima fixed thereby shall be made until the expiration of another period of five years.

Cf. Indian Elec. Act, 1903, Sch., cl. XII. See Introduction, paragraph 18.

Save as provided.—This is to meet the case of partial supply by a bulk-licensee to a distributing-licensee.

The maxima.—There are often separate maximum rates for light and power ; the Act of 1903 only provided for a single maximum.

First Proviso.

If the Local Government considers.—The words “ or is satisfied ” were omitted by the Indian Electricity (Amendment) Act, 1922, which makes the matter one for compulsory reference to an Advisory Board. The matter is not one for executive action on the advice of a single official, as highly technical questions of supply, of depreciation and reserve funds, and of accounts generally are involved.

Advisory Board.—See section 35 and paragraph 25 of the Introduction.

Second Proviso.

Five years.—This period was reduced in 1910 from seven years, as an offset to the better purchase terms then given.

The maximum price fixed by a license will generally not be taken advantage of by a licensee, since it is almost universally found that lowering the price at intervals

increases the revenue in a properly managed undertaking. The maximum rate prevents an extortionate charge being levied, and if a licensee should be so ill-advised as unnecessarily to keep the rate at the maximum throughout seven years, there is little doubt that the effects would be a fall in the sanctioned maximum when that period elapsed, provided of course the undertaking was paying well. Should the sanctioned maximum, on the other hand, be found too low it could be raised in the same way, as has been done—not under this clause, but by an amendment of the license—in Madras. No distinction is here made between local authorities and other licensees; it is advisable that such matters should in all cases be settled by the Government on the advice of an impartial Advisory Board. This objection has been fully justified by recent events referred to in the Introduction; see paragraphs 16, “Alteration of maximum charges,” and 25, “Advisory Boards.”

Cases of a compulsory reduction of maximum charges are very rare. The power is only given for the purpose of dealing with unreasonable licensees. The power to reduce, under the unamended Act of 1910, was unlimited and unconditional in its scope, though it had to be exercised with due regard to the principles of natural justice applied to the circumstances of each particular case. Before deciding on any reduction Government would have had to consider the interests of the licensee as well as those of the public. These considerations still hold good, but in its amended form the onus is thrown on an Advisory Board. Licensees and capitalists strongly objected to the Local Government, which has the power of compulsory purchase, having also the unrestricted right to lower rates.

XI-A. A licensee may charge a consumer a minimum charge for energy of such amount and determined in such manner as may be specified by his license, and such minimum charge shall be payable notwithstanding that no energy has been used by the consumer during the period for which such minimum charge is made.

Clause XI-A.
Minimum charges.

See *Introduction*, paragraph 18.

This clause was added by the Indian Electricity (Amendment) Act, 1922, to set at rest doubts as to the legality of minimum charges, which are already authorized by most licenses. It was seriously contended in one province that if no energy was used at all during the period for which the minimum charge was levied, it would be illegal; the words used being generally “for any quantity up to x units, y rupees.” But “any quantity” obviously covers nil.

XII. The price to be charged by the licensee and to be paid to him for energy supplied for the public lamps, and the mode in which those charges are to be ascertained, shall be settled by agreement between the licensee and the Local Government or the local authority, as the case may be, and, where any difference or dispute arises, the matter shall be determined by arbitration.

Clause XII.
Charge for supply for public lamps.

Cf. Indian Elec. Act, 1903, Sch., cl. XIII.

This section does not apply to “bulk supply,” see section 3 (2) (f) proviso.

Public lamps.—Requisitions for supply may be served under clause VIII. A “public lamp” is defined in the Act as an “electric lamp used for the lighting of any

SCHEDULE. street," see section 2 (k). In the British Acts there is a very different definition of
 — "public purposes"—a phrase nowhere used in the Indian Act—as follows :—
 Clause XII.

" 'Public purposes' shall mean lighting any street or any place belonging to or subject to the control of the local authority, or any church or registered place of public worship, or any hall or building belonging to or subject to the control of any public authority, or any public theatre, but shall not include any other purpose to which electricity may be applied." [The Electric Lighting Act, 1882, section 3 (3).]

Should any difference or dispute arise in the matter, it is to be determined by arbitration (Introduction, paragraph 23). In determining the price to be charged an arbitrator would doubtless have regard to the circumstances of the case and the distributing or other mains (if any) which may have to be laid for the purpose, and to the prices charged to ordinary consumers in the neighbourhood; *cf.* Electric Lighting (Clauses) Act, 1899, Sch., cl. 34. The price charged to ordinary consumers is of course a very inaccurate guide, as the hours of use and consequent load factor [section 23 (4)] in the two cases are likely to be very different.

Testing and Inspection.

Clause XIII.
 Licensee to
 establish
 testing sta-
 tions and
 keep
 instruments
 for testing.

XIII. The licensee shall establish at his own cost and keep in proper condition such number of testing stations, situated at such places within reasonable distance from any distributing main, as the Local Government may direct for the purpose of testing the pressure or periodicity of the supply of energy in the distributing main, and shall supply and keep in proper condition thereat, and on all premises from which he supplies energy, such instruments for testing as an Electric Inspector may approve, and shall supply energy to each testing station for the purpose of testing.

Cf. Indian Elec. Act, 1903, Sch., cl. XIV.

The chief function of these testing stations is to see that the standard pressure and frequency do not vary beyond the limits allowed by the "rules for ensuring a proper and sufficient supply of energy." See Introduction "as to rules," paragraph 26; also section 37 (2) (e) of the Act, *supra*, and rules 26, 27 in Appendix I.

Any consumer has the right to inspect the records of tests in these stations; see the last words of section 37 (2) (e) and the rules thereunder (rule 28). If a consumer considers that the pressure of supply to his premises is not such as to comply with the rules it is open to him, as an aggrieved person within the meaning of section 50 of the Act, to institute a prosecution against the licensee for the imposition of penalties under the rules. Presumably he could also sue for damages in the Civil Courts. If there were general complaints as to the pressure of supply it would be open to Government or an Electric Inspector to institute an enquiry and, if necessary, a prosecution.

The Local Government.—This function may be delegated to an Electric Inspector (section 55).

Clause XIV.
 Facilities
 for testing.

XIV. The licensee shall afford all facilities for inspection and testing of his works and for the reading, testing and inspection of his instruments, and may, on each occasion

of the testing of his works or the reading, testing or inspection of any instruments, be represented by an agent, who may be present, but shall not interfere with the reading, testing or inspection.

SCHEDULE.
Clause XIV.

Cf. Indian Elec. Act, 1903, Sch., cls. XV and XVI.

The inspection and testing of his works, etc.—These facilities extend only to authorized persons, i.e., Electric Inspectors and their assistants generally; and also, as regards the reading or inspections of instruments in testing stations (clause XIII), to consumers. See the rules in Appendix I.

Works.—See definition in section 2 (n); the term includes everything necessary for the supply of energy; see note on following section.

XV. On the occasion of the testing of any works of the licensee by an Electric Inspector reasonable notice thereof shall be given to the licensee; and the testing shall be carried out at such suitable hours as, in the opinion of the Electric Inspector, will least interfere with the supply of energy by the licensee, and in such manner as the Electric Inspector may think fit; but, except under the provisions of an order made in each case in that behalf by the Local Government, the Electric Inspector shall not be entitled to have access to, or interfere with, the works of the licensee at any points other than those at which the licensee himself has access to the same:

Clause XV.
Testing of works.

Provided that the licensee shall not be held responsible for any interruption or irregularity in the supply of energy which may be occasioned by, or required by the Electric Inspector for the purpose of any such testing as aforesaid:

Provided, also, that the testing shall not be made in regard to any particular portion of the works oftener than once in any three months, unless in pursuance of an order made in each case in that behalf by the Local Government.

Cf. Indian Elec. Act, 1903, Sch., cl. XVII.

Works.—See definition in section 2 (n); the term includes electric supply-lines (as defined in (f) of the same section), buildings, machinery and apparatus required to supply energy and to carry into effect the objects of a license. Actually, the testing would generally be of the mains, for which purpose an interruption of the supply might be necessary; but not if it were merely a matter of testing the pressure. Any such testing is extremely rare, as the licensee, in the interests of his business, must keep his "works" in proper order.

Plans.

XVI. (1) The licensee shall, after commencing to supply energy, forthwith cause a plan to be made of the area of supply, and shall cause to be marked thereon the alignment

Clause XVI.
Plan of area of supply to be made and kept open for inspection.

SCHEDULE.
 Clause XVI. and in the case of underground works, the approximate depth below the surface of all his then existing electric supply-lines, street-distributing boxes and other works, and shall once in every year cause that plan to be duly corrected so as to show the electric supply-lines, street-distributing boxes and other works for the time being in position. The licensee shall also, if so required by an Electric Inspector, cause to be made sections showing the approximate level of all his existing underground works other than service-lines.

(2) Every such plan shall be drawn to such scale as the Local Government may require : provided that no scale shall be required unless maps of the locality on that scale are for the time being available to the public ; and

(3) Every such section shall be drawn to horizontal and vertical scales which shall be such as the Local Government may require.

(4) Every plan and section so made or corrected, or a copy thereof, marked with the date when it was so made or corrected, shall be kept by the licensee at his principal office or place of business within the area of supply, and shall at all reasonable times be open to the inspection of all applicants, and copies thereof shall be supplied on such terms and conditions as may be prescribed by rules under the Indian Electricity Act, 1910.

(5) The licensee shall, if required by an Electric Inspector and, where the licensee is not a local authority, by the local authority (if any) concerned, supply free of charge to such Electric Inspector or local authority, a copy of every such plan or section duly corrected so as to agree with the original kept at the principal office or place of business of the licensee.

Cf. Indian Elec. Act, 1903, Sch., cl. XVIII.

Failure to comply renders the licensee liable to penalties under section 47. The clause was modified by the Indian Electricity (Amendment) Act, 1922, by omitting the words relating to the height above ground of overhead works and by leaving the scales to be settled by the Government, according to what maps are available. The Survey of India's maps would doubtless be accepted.

Additional Notice of Certain Works.

Clause XVII. XVII. On the day next preceding the commencement of
 Notice to any such works as are referred to in section 13 of the Indian
 Electric Electricity Act, 1910, the licensee shall, in addition to any
 Inspector

other notices which he may be required to give, serve upon the Electric Inspector, or such officer as the Local Government may appoint in this behalf for the area of supply, a notice in writing stating that he is about to commence the works, and the nature and position of the same.

SCHEDULE.
Clause XVII.

Cf. *Indian Elec. Act, 1903, Sch., cl. XIX.* See *Introduction, paragraph 11, as to works.* This notice has to be given in the case of new works only.

APPENDIX I.

The Indian Electricity Rules, 1922

(As Amended up to 1933).

(With Annexures.)

Detailed List of Chapter, Italic and Marginal Headings.

Chapter I.—Preliminary.

	PAGE
1. Short title	315
2. Definitions	315

Chapter II.—Electric Inspectors.

3. Qualifications of Electric Inspector	319
4. Entry and inspection	319
4-A. Limitation of appeals	319
5. Amount of fees	320
6. Incidence of fees	320
7. Submission of records	320
8. List of consumers	320

Chapter III.—Licenses.

Application for Licenses.

9. Applications for license	320
10. Copies of map and draft license for public inspection	321
11. Contents of draft license	321
12. Form of draft license	321
13. Advertisement of application and contents thereof	322

Objections to License.

14. Amendment of draft license	322
15. Local inquiries	322

Grant of License.

16. Approval of draft of license	322
17. Notification of grant of license	323
18. Date of commencement of license	323
19. Deposit of map	323
20. Deposit of printed copies	323

Orders supplementing or amending Licenses.

21. Applications for written consent of Local Government in certain cases .	323
22. Amendment of licenses	323

Chapter IV.—Conditions of Supply by Licensee.

23. Precautions against leakage before connection	323
24. Leakage on consumer's premises	324
25. Appeal to Electric Inspector in regard to leakage	324
26. Declared pressure of supply to consumers	324
27. Declared frequency of supply to consumers	325
28. Examination of licensee's records by consumer	325
29. Sealing of meters	325
30. Sale of plans	325
31. Point of commencement of supply	325

Accounts and Forms.

32. Preparation and submission of accounts	326
33. Forms of certain requisitions	326

Chapter V.—Precautions for the Safety of the Public.*General.*

34. Application of chapter	326
35. Dealing with electric shock	326

Precautions to be adopted by Licensee.

36. Protection from lightning	327
37. Responsibility of licensee for his works on consumer's premises	327
38. Cut-out on consumer's premises	327
39. Service-lines on consumer's premises	327

Precautions to be adopted by Owners.

40. Precautions to be adopted by owners	328
---	-----

Precautions to be adopted by Consumers and Owners, Electrical Contractors and Electrical Workmen.

40-A. Precautions to be adopted by consumers and owners, electrical contractors and electrical workmen	328
--	-----

Control of Energy.

40-B. Control of energy	329
-----------------------------------	-----

Electric Supply-lines and Apparatus.

41. Maintenance	329
42. Accidental charge	329
43. Crossing metallic substances	329
44. Cut-out	330
45. Metal casings	330
46. Connection with earth of frames of generators, etc.	330
47. Junction-boxes	330
48. Connection with earth of a multi-wire system	330
49. Connection with earth of polyphase system	331
50. Connection with earth of concentric conductors	331

Medium or High Pressure.

51. Supply at medium or high pressure	331
52. Introduction of multi-wire system to buildings	332
53. Main switchboard	332
54. Distinction of circuits of different pressure	332

High Pressure.

55. Approval of high pressure supply	332
56. Testing of insulation of high pressure circuit	333
57. High pressure electric supply-lines and apparatus placed above ground	333

Aerial Lines.

58. Minimum strength of conductors of aerial lines	333
59. Maximum intervals between supports	333
60. Connection with earth of metal supports	334
61. Factor of safety	334
62. Height from ground and distance from buildings	334
63. Safety device	335
64. Lines crossing or approaching each other; lines crossing trolley-wires; guard-wires; earthing devices	335
65. Service-lines from aerial lines	337
66. High pressure aerial lines	337
67. Suspending of aerial lines	337
68. Unused aerial line to be removed	337

Electric Traction.

69. Additional rules for electric traction	337
70. Pressure of supply to vehicle	337
71. Insulation of lines and returns	337
72. Insulation of returns	337
73. Uninsulated return to be negative	338
74. Earth return current	338
75. Difference of potential on return	338
76. Leakage on conduit system	338
77. Leakage on other than conduit system	338
78. Passengers not to have access to electric circuit	339
79. Current density in rails	339
80. Isolation of sections	339
81. Minimum size and strength of trolley-wire	339
82. Height of trolley-wire and length of span	339
83. Records	339

Mines and Oil-fields.

84. Additional rules for mines and oil-fields	339
85. Responsibility for observance	339
86. Notices	340
87. Plans	340
88. Lighting, communications and fire precautions, and limit of pressure below ground	340
89. Isolation and fixing of transformer, switchgear, etc.	340
90. Method of earthing	341
91. Construction and insulation of apparatus, and earthing of same	341
92. Earthing metal, etc.	341
93. Motors and their transformers	341
94. Switchgear and terminals	342
95. Cutting off supply	342
96. Cables in mines	343

	PAGE
97. Flexible cable	344
98. Supervision and sundry precautions	344
99. Precautions where gas exists	345
100. Shot-firing and signalling in mines	345
101. Haulage in mines	346
102. Exemptions	346

Relaxation of Rules.

103. By Local Government	346
104. By Electric Inspector	346

Chapter VI.—Penalties and Miscellaneous.

105. Responsibility for observance of rules	346
106. Penalty for breaking seal	346
106-A. Penalty for Breach of Rule 40-A	347
107. Penalty for breach of rules	347
108. Mode of entry	347
109. Application of rules	347

Annexures to the Rules.

Annexure I.

Specification relating to the deposition of silver	347
--	-----

Annexure II.

Scale of fees	348
-------------------------	-----

Annexure III.

Model Form of Draft License under the Indian Electricity Act, 1910	348
--	-----

Annexure IV.

Model Form of Accounts prescribed under the Indian Electricity Act, 1910, for Local Authorities	353
--	-----

Annexure V.

Model Form of Accounts prescribed under the Indian Electricity Act, 1910, for Companies	359
--	-----

Annexure VI.

Form of Requisition under clause V (4) of the Schedule to the Act	366
---	-----

Annexure VII.

Form of Requisition under clause VI (5) of the Schedule to the Act	367
--	-----

Annexure VIII.

Form of Order under rule 4 (4)	368
--	-----

THE INDIAN ELECTRICITY RULES, 1922. 313

PAGE

Annexure IX.

Forms of Annual Return for Oil-fields, parts A and B—see rule 86 . . . 369

Annexure X.

Log-sheets for Mines and Oil-fields—see rule 98 (4) . . . 371

APPENDIX II.

Model Form of Licensee's "Conditions of Supply," etc. . . . 372

Model Form of Licensee's Conditions; Part V: Model Form of Agreement
between Licensee and Consumer . . . 377

APPENDIX III.

Permissible limits of error of electric supply meters . . . 381

The Indian Electricity Rules, 1922.

(With Annexures and as amended up to 1933.)

GOVERNMENT OF INDIA.

DEPARTMENT OF INDUSTRIES.

ELECTRICITY.

No. A73, dated the 31st July, 1922.

NOTIFICATION.

In exercise of the powers conferred by section 37 of the Indian Electricity Act, 1910 (IX of 1910), and in supersession of the Indian Electricity Rules, 1911, the Governor-General in Council is pleased to make the following rules applicable to the whole of British India, to regulate the generation, transmission, supply and use of energy, and generally to carry out the purposes and objects of the said Act :—

RULES AS AMENDED up to January 1st, 1933.

CHAPTER I.

PRELIMINARY.

1. These rules may be called the Indian Electricity Rules, 1922.
2. **Definitions.**—In these rules, unless there is anything repugnant in the subject or context,—

(a) “the Act” means the Indian Electricity Act, 1910 (IX of 1910).

(b) “ampere” means a unit of electric current, and is the unvarying electric current which, when passed through a solution of nitrate of silver in water, in accordance with the specification set out in Annexure I to these rules, deposits silver at the rate of 0·001118 of a gramme per second ;

Notes.—The annotations on these rules at the foot of each page are the Author's, and are not part of the rules or in any way official. Many of the rules can be relaxed by the Local Government, under rule 103, or by the Electric Inspector, under rule 104.

Notification.—The rules have in some cases, to which attention is called in the footnotes, been subsequently added to and amended ; and further revision is probable from time to time.

CHAPTER I contains the definitions, including those of the international units of current, resistance, pressure and power. The definitions in the Act, section 2, are of course to be read into the Rules ; of these the meaning is in most cases clear of itself, but special attention may be drawn to the notes on (c) “consumer” : on the group (f) electric supply-line ; (i) “main” ; (e) “distributing main” (1) “service line” : on (m) “street” : and on (n) “works.”

Such aforesaid unit is represented by the current which is passing in and through the coils of wire forming part of the instrument marked "Government of India Ampere Standard verified" when the suspended coil in its sighted position is exactly balanced by the force exerted by gravity in Calcutta on the iridio-platinum weight marked "A" forming part of the said instrument:

(c) "apparatus" means electrical apparatus, and includes all apparatus, machines, and fittings in which conductors are used, or of which they form a part;

(d) "authorized person" means a person authorized in writing by a licensee, a consumer or an owner, or by the owner, agent or manager of a mine, or by the agent of any company operating in an oil-field or by the owner of a drilled well in an oil-field or by a contractor for the time being under contract with a licensee, a consumer or an owner to carry out duties incidental to the generation, transformation, distribution or use of energy, such person being competent for the purposes of the rule in which the term is used;

(e) "bare" means not covered with insulating material;

(f) "circuit" means an electrical circuit forming a system or branch of a system;

(g) "concentric system" means a system in which a conductor, called the inner conductor, is insulated and in which the circuit is completed through one or more conductors, called the outer conductors, which are insulated from one another and are disposed over the insulation of, and more or less completely round, the inner conductor;

(h) "conductor" means an electrical conductor arranged to be electrically connected to a system;

(i) "covered with insulating material" means adequately covered with insulating material of such quality and thickness that there is no danger;

(j) "cut-out" means any appliance for automatically interrupting the transmission of energy through any conductor when the current rises above a pre-determined amount;

(k) "danger" means danger to health or danger to life or limb from shock, burn, or other injury to persons, or from fire or explosion, attendant upon the generation, transformation, distribution, or use of energy;

(l) "dead" means at, or about, earth potential, and disconnected from any live system; provided that apparatus separated from a live conductor by a spark gap shall not be considered dead;

(m) "distributing licensee" means a licensee who obtains from another licensee a supply of energy in bulk for distribution;

Rule 2 (c). "Apparatus" is also included with "works" in the Act—see s. 2 (n), but there it is confined to apparatus of a licensee, while here it is not.

Rule 2 (d). *Competent for the purpose*.—It appears to the author that, strictly speaking, a separate rule should enact that an authorized person (and an "electrician" in (g) below) shall be competent. Competence would only be proved or disproved by evidence in a Court. A person might be authorized by one of the parties mentioned to carry out certain duties, but if a Court subsequently held him not to be competent, he would then not be or have been an authorized person *ab initio*. This might cause complications, as the requirement of competency is rather vaguely insisted upon by the actual wording. In rule 98, this is done as regards "electrician."

Rule 2 (g). "Concentric system." The outer conductor may be earthed—see rule 50.

Rule 2 (h). "Conductor" obviously includes contact studs on starters, blades of switches and the like, which are arranged to be so connected only at certain times. Accidental contact is dealt with elsewhere, and things accidentally charged are not intended to be "electrically connected."

Rule 2 (i). "Danger" is defined in rule 2 (k). see next note.

Rule 2 (j). It is often overlooked that the function of a cut-out or circuit-breaker is not conveying but automatically interrupting the current.

Rule 2 (k). The rules deal with danger to persons, and are only incidentally concerned with property.

Rule 2 (l). The earth side of a lightning arrestor, or similar apparatus employing a spark-gap, is not deemed to be "dead."

(n) "earthed" or "connected with earth" means connected with the general mass of earth in such manner as to ensure at all times an immediate discharge of energy without danger ;

(o) "earthing system" means an electrical system in which all the conductors are earthed ;

(p) "Electric Inspector" means an inspector appointed under section 36 of the Act ;

(q) "electrician" means a person appointed in writing by the lessee or owner, agent or manager of electrical plant or apparatus for the purpose of supervising the same, such person being over 21 years of age and competent for the purposes of the rules in which the term is used ;

(r) "Inspector of Mines" means an inspector appointed under the Indian Mines Act, 1923 [IV of 1923] ;

(s) "live" means electrically charged ;

(t) "metallic covering" means iron or steel armouring, with or without a lead or other metallic sheath as the conditions of the case may require, or an iron or steel pipe surrounding one or more conductors ;

(u) a meter of a type included in the specification herein referred to shall be deemed to be "correct" within the meaning of section 26 of the Act when its limits of error as certified by an Electric Inspector do not exceed those laid down in the "British Standard Specification for Electricity Meters ; No. 37, dated 1929," and when it cannot register at no load ; and any meter, maximum demand indicator or other apparatus for which there is for the time being no British Standard Specification shall be deemed to be "correct" within the meaning of section 26 of the Act when its limit of error, as certified by an Electric Inspector, does not exceed 3 per cent. above or below absolute accuracy at all loads in excess of one-tenth of full load and up to full load and when it cannot register at no load.

(uu) "*neutral conductor*" means a conductor directly connected to that point in a generating or transforming arrangement, which is placed symmetrically with respect to the terminal points of the arrangement.

(v) "ohm" means a unit of electric resistance, and is the resistance offered to an unvarying electric current by a column of mercury at the temperature of melting ice 14·4521 grammes in mass of a constant cross-sectional area and of a length of 106·3 centimetres ; such aforesaid unit is represented by the resistance between the terminals of the instrument marked "Government of India Ohm Standard verified" to the passage of an unvarying electric current when the

Rule 2 (q). In this and similar cases—*vide* Rule 2 (d) *supra*, and note thereon—the question of whether the man is in fact "competent," or whether apparatus is "suitable" is for the Courts to decide.

Rule 2 (r). The Mines Act here quoted has superseded the Indian Mines Act, 1901 [VIII. of 1901] ; see notes on section 30 of the Act.

Rule 2 (t). There is a clear distinction between "metal casing," such as lead covering on wires, and "metallic covering" which is here defined. Both terms are used in the rules.

Rule 2 (u). British Standard Specification No. 37 of 1929 is in process of being substituted for that of 1919 as these pages go to Press ; it is suggested that the above rule should be modified in such a way as to make use of the latest issued edition of the same, at least for meters brought into use subsequently to a change. It has been urged that owing to the very great temperature variations found in India, the limits of error allowed here are inadequate, and would rule out several of the best-known makes of meter which are, in fact, generally used. This is a matter which could be conclusively settled by a series of tests undertaken by the Government of India laboratory or the Alipore test house ; but no such tests have been brought to the Author's notice. It is a plain question of fact. If under test conditions a standard type of meter cannot register the actual consumption within the allowed limits, both at the highest and the lowest temperature experienced in any particular place, then the limits should be increased.

Details of the permissible limits of error both under B.S.S. No. 37 of 1919 and of the latest issue, namely No. 37 of 1930, will be found in Appendix III at the end of this book. The British Engineering Standards Association (or B.E.S.A.) is now "The British Standards Institution."

Rule 2 (uu). This is put in italics as it has not been finally passed when the sheet goes to Press.

coil of wire forming part of the aforesaid instrument and connected to the aforesaid terminals is in all parts at a temperature of 30° C. ;

(w) "open sparking" means sparking which owing to the lack of adequate provisions for preventing the ignition of inflammable gas external to the apparatus would ignite such inflammable gas ;

(x) "owner" means a person (other than a licensee) generating, supplying, transmitting or using energy to whom any of the provisions of Part III of the Act apply ;

(y) "owner," "agent" or "manager" of a mine are as defined in sections 3 (g), 3 (a) and 15 (I), respectively, of the Indian Mines Act, 1923 [IV of 1923] ;

(z) "pressure" means the difference of electric potential measured in volts between any two conductors, or between any part of either conductor and the earth as read by a hot-wire or electrostatic voltmeter, and is said to be—

(i) "low" where, under ordinary working conditions, it does not exceed 250 volts by an amount greater than five per cent. of the normal pressure where the energy is used ;

(ii) "medium" where, under ordinary working conditions, it may exceed 250 volts, but does not exceed 650 volts by an amount greater than five per cent. of the normal pressure where the energy is used ;

(iii) "high" where, under ordinary working conditions, it may exceed 650 volts ;

(aa) "switchgear" means switches, cut-outs or fuses, conductors, and other apparatus in connection therewith, used for the purpose of controlling the current or pressure in any system or part of a system ;

(bb) "system" means an electrical system in which all the conductors and apparatus are electrically connected to a common source of pressure ;

(cc) "use" of energy means the conversion of electrical energy into mechanical or chemical energy, heat or light for the purpose of providing mechanical energy, electrolysis, heat or light ;

(dd) "volt" means a unit of electro-motive force, and is the electric pressure which, when steadily applied to a conductor whose resistance is one ohm, will produce a current of one ampere ; and

(ee) "watt" means a unit of power, and is the energy expended per second by an unvarying electric current of one ampere under an electric pressure of one volt.

Rule 2 (x). The definition of an "owner" shows that he may be any of the following :—

A person supplying energy within the meaning of section 28 of the Act.

A person transmitting or using energy in any street—section 30 (I) (a).

A person transmitting or using energy in any place in which one hundred or more persons are likely ordinarily to be assembled [section 30 (I) (b), sub-head (i)].

The owner, agent or manager of a factory or a mine [*ibid.*, sub-heads (ii), (iii)] or other place declared under sub-head (iv).

A tenant "using energy" becomes an "owner" as defined. Section 30 of the Act is here referred to.

Rule 2 (y). The Act in question has superseded the Indian Mines Act, 1901 (VIII, of 1901) ; see notes on section 30 (I) (b) (iii). The consequent changes in the rule have been made, though not promulgated, as the sheet goes to Press.

Rule 2 (z). "Extra high pressure" is not defined, as there are no rules dealing specially with pressures over 6600 volts, which is a British Standard. Higher pressures are of course used on most transmission lines.

Rule 2 (aa). Fuses are self-explanatory, but "cut-out" is defined in (j) above.

Rule 2 (bb). In an alternating current supply the two sides of a transformer and the circuits from them are parts of two "systems" as defined, for the purpose, e.g., of earthing a neutral.

Rule 2 (cc). Radio energy is not included, as telegraphy is excluded from the definition of energy in the Act—*vide s. 2 (g)*.

Rule 2 (ee). The phrase "per second" in the definition of "Watt" has been objected to, on somewhat obscure grounds. The difficulty apparently arises owing to the fact that in electrical engineering (as distinct from physics) the fundamental unit of quantity of electricity or "coulomb" is not used. An ampere [of which the international definition is in clause (a) of this rule] represents a rate of flow of electricity of one coulomb per second, an exact parallel to a water flow of one gallon per second ;

CHAPTER II.

ELECTRIC INSPECTORS.

3. Qualifications of Electric Inspector.—No person shall be appointed an Electric Inspector unless,—

(a) he has had at least five years' practical experience in an electrical or mechanical engineering workshop or electric power station; and

(b) after acquiring such experience, he has been regularly engaged for a period of not less than five years in the practice of electrical engineering;

Provided that the Governor-General in Council or the Local Government, as the case may be, may appoint any person not so qualified, if in his or its opinion such person is otherwise fully qualified to exercise the powers and perform the functions of an Electric Inspector.

4. Entry and Inspection.—(1) Any Electric Inspector, or any officer appointed to assist an Electric Inspector may enter, inspect and examine any place, carriage or vessel in which he has reason to believe any appliance or apparatus used in the generation, transmission, supply or use of energy to be, and may carry out tests therein.

(2) Every licensee and owner shall afford at all times all reasonable facilities to any such Inspector or officer to make such examinations and tests as may be necessary to satisfy himself as to the due observance of the Act, the license (if any) and these rules.

(3) The licensee shall provide means for carrying out all tests prescribed by or under the Act of the appliances or apparatus used for the supply of energy by him.

(4) An Electric Inspector may serve an order in the form set out in Annexure VIII to these rules, upon any licensee or owner, calling upon him to comply with any specified rule, and the person so served shall thereupon comply with the order within the period named therein: Provided that if within that period an appeal is filed against the order, the appellate authority may suspend its operation pending the decision of the appeal.

4-A. Limitation of Appeals.—No appeal from any decision of an Electric Inspector shall be entertained unless it is preferred within three months of the date of the communication to the appellant of the decision.

in neither case does the pressure (of electricity or water) come into the expression. The watt is a unit of power, not of energy; a rate of expenditure of energy, not a quantity of energy expended, viz., the rate of expenditure of energy of one volt-ampere (here the time element is intrinsic) or of one volt-coulomb-per-second, corresponding in water power to one gallon per second under a head of one foot. The underlying difficulty (experienced, it appears, by many engineers of eminence) seems to lie in the fact that the "per second" is already intrinsic in the ampere; and that "one volt-ampere" would therefore be a sufficient definition for direct current, if not for a Court of law. But so soon as it is defined as a rate of expenditure of energy (as it is in this case) it is essential that the words "per second" be inserted, for a rate *must* be a rate per unit of time. The present definition agrees in this respect with that of the British Standards Institution, which should be enough to close this twenty-five year old controversy. In conclusion, it is said that difficulty arises when watt-hours have to be calculated. Watt-hours represent the quantity of energy; a rate of expenditure of energy of 1000 watts continued for one hour constitutes 1000 watt-hours or one "unit" or Kelvin. This can be paraphrased so as to use the wording of the definition under discussion: "When the energy expended per second by an unvarying electric current of one ampere under an electric pressure of one volt has been so expended for one hour, the total quantity of that energy will be one watt-hour."

CHAPTER II. While certain of these rules apply only to licensees, others apply to "consumers" and to "owners," as defined above, who come under Part III of the Act. The Annexures to the rules referred to in this Chapter will be found in their place after the Rules. The Government of India Standards are in the custody of the Electric Inspector, Government of Bengal, at Calcutta (rule 5). As to tests (rule 7) see Schedule to the Act, Clauses XIII to XV.

Rule 4 (1). Substations and transformers transmit energy and are therefore included.

Rule 4-A. This was added in 1933.

5. **Amount of Fees.**—(1) The fees set out in Annexure II to these rules shall be payable in respect of the services therein mentioned, where the tests are carried out by comparison with the Government of India Standards referred to in rule 2.

(2) The Governor-General in Council or the Local Government, as the case may be, may levy such fees for testing and inspection and generally for the services of Electric Inspectors under the Act as he or it may from time to time, by general or special order, direct; and may, if he or it thinks fit, remit any fee or any portion thereof.

6. **Incidence of Fees.**—Where an Electric Inspector is called in to decide any difference or dispute, and where a fee for such service is recoverable, the Electric Inspector shall decide by whom such fee shall be payable.

7. **Submission of Records.**—An Electric Inspector may require a licensee and a licensee may require an Electric Inspector to submit to such Inspector or licensee for examination any records of tests made in connection with the licensee's works by the licensee or the Inspector; and the licensee or Inspector shall comply with such requisition.

8. **List of Consumers.**—An Electric Inspector may require a licensee to submit to him a list of all consumers supplied with energy by him at a pressure exceeding low pressure and of the addresses at which such energy is supplied; and the licensee shall comply with such requisition.

CHAPTER III.

LICENSES.

Application for Licenses.

9. **Applications for License.**—Every application for a license shall be signed by, or on behalf of, the applicant and addressed to such officer as the Local Government may designate in this behalf, and it shall be accompanied by—

(a) six copies in print, of the draft license as proposed by the applicant; the name and address of the applicant and of his agent (if any) being printed on the outside of the draft;

(b) one copy, signed by the applicant, of a map of the proposed area of supply, on a scale

(i) of not less than six inches to a mile, or

(ii) if no such map is available not less than that of the largest scale ordnance map available, or

(iii) on such scale as may be approved by the Local Government, so marked or coloured as to define any portion of such area which is under the administration of any local authority;

(c) a list of any local authorities invested with the administration of any portion of the area of supply;

(d) an approximate statement describing any lands which the applicant proposes to acquire for the purpose of the license under the provisions of the Land Acquisition Act, 1894 [I of 1894].

(e) an approximate statement of the capital proposed to be expended in connection with the undertaking;

Rule 5 (2). At present these fees vary greatly in different provinces. A uniform scale is highly desirable, and could be settled by an Advisory Board.

Rule 9 (b). The words "so marked . . ." apply, of course, to (i), (ii) and (iii).

Rule 9 (d). For *prés* of Land Acquisition Act, as amended, see para. 13 of the Introduction.

Rules 9 and 10. For definition of "local authority" see para. 29 of the Introduction.

(f) if the applicant is a company registered under any of the enactments relating to companies for the time being in force in the United Kingdom, or in any of the Colonies or Dependencies thereof, or in British India, or incorporated by an Act of Parliament or of the Governor General in Council or by Royal Charter or Letters Patent, a copy of the memorandum and Articles of Association, and

(g) a treasury receipt for a fee of five hundred rupee, paid into a Government treasury in the province concerned, unless such fee is remitted, wholly or in part, by general or special order of the Local Government

(2) If the application for a license is rejected or if a license is revoked under sub section (3) of section 4 of the Act as to the whole or any part of the area of supply, the Local Government may at its discretion refund, wholly or in part, the fee referred to in clause (g) of sub rule (1)

10 Copies of Map and Draft License for Public Inspection.—The applicant shall deposit at his own office or at that of his agents, and at the office of every local authority invested with the administration of any portion of the proposed area of supply—

(a) a copy of the map referred to in clause (b) of rule 9 for public inspection, and

(b) a sufficient number of copies of the draft license to be furnished to all persons applying for them at a price not exceeding one rupee per copy

11 Contents of Draft License.—The draft license shall contain the following particulars, namely —

(a) a short title descriptive of the proposed undertaking, together with the address and description of the applicant, or, in the case of a firm, the names of all the individual members of the firm,

(b) a statement of the boundaries of the proposed area of supply,

(c) if the generating station is situated, or to be situated, outside the area of supply, or if any intervening area not included in the area of supply, is to be crossed, a list of the streets along or across which electric supply lines are to be laid down or placed;

(d) the proposed conditions of supply, including maximum prices, nature and amount of supply (if limited) and the like,

(e) a list of streets (if any) not repairable by the Government or by a local authority and of railways and tramways (if any) the soil or pavement of which the applicant seeks powers to open, break up or interfere with, and the names of the persons by whom such streets are repairable, or who are for the time being entitled to work such railway or tramway,

(f) the proposed periods after which the right to purchase is to take effect,

(g) a statement of any special terms of purchase or orders proposed to be made under section 10 of the Act, and

(h) any proposed modification of the Schedule to be made under clause (f) of sub section (2) of section 3 of the Act

12 Form of Draft License.—The form of draft license set forth in Annexure III to these rules may, with such variation as the circumstances of each case require, be used for the purposes of rule 9, and, if used, shall be sufficient

Rule 11 (a) The members of a firm are the partners

Rule 11 (c) Section 12 (5) of the Act provided for the authorization of the breaking up of private streets, railways and tramways in three ways viz (i) by the license (ii) by written consent of the persons concerned and (iii) by written consent of the Local Government. In the last of these cases nothing need be shown scheduled in the license but rule 21 shows what action must be taken by the applicant for powers. Rule 11 (e), on the other hand is concerned with the draft license and with the first of the above noted cases. If powers are given in the license itself rule 21 does not come into play

Rule 12 See p 348 et seq

13 Advertisement of Application and Contents thereof.—(1) The applicant shall, within fourteen days from the submission of the application under rule 9, publish notice of his application by public advertisement, and such advertisement shall consist of—

(a) the draft license,

(b) the address of the offices at which, under rule 10, copies of the map therein referred to may be inspected and copies of the draft license obtained

(2) The advertisement shall be headed by a short title corresponding with that at the head of the draft license, and shall state that every local authority, company or person, desirous of making any representation with reference to the application to the Local Government, may do so by letter addressed to such officer as the Local Government may designate in this behalf, within three months of the date of issue of the newspaper containing the first advertisement

(3) The advertisement shall be inserted by the applicant in at least three successive issues of *such newspaper as the Local Government, having regard to its circulation among persons likely to be interested, may direct, and, in the absence of any such direction, in at least three successive issues of any newspaper published within the proposed area of supply, or if there is no such newspaper, of any newspaper published within the Province*

(4) The applicant shall send a copy of each of the three successive issues of the newspaper containing the advertisement to such officer as the Local Government may designate in this behalf as soon as the third issue appears, and the Local Government shall publish the advertisement once at least in the local official Gazette within one month from the date of the first advertisement published under sub rule (3) of rule 13.

Objections to License

14 Amendment of Draft License.—Where any person desires to have any amendment made in the draft license, he shall deliver a statement of the same to the applicant, and also to such officer as the Local Government may designate in this behalf within the time allowed under sub rule (2) of rule 13 for the submission of representations referring to the application

15 Local Inquiries.—Where any person locally interested objects to the grant of a license applied for under the Act, the Local Government shall, if either the applicant or the objector so desires, cause a local inquiry to be held, of which due notice shall be given to both applicant and objector :

Provided that the Local Government may refuse such an inquiry if, in its opinion, the objection is of a trifling or vexatious nature

Grant of License

16 Approval of Draft License.—If and when the Local Government has approved of a draft license, either in its original form or in a modified form, such officer as the Local Government may designate in this behalf shall inform the applicant of such approval and of the form in which it is proposed to grant the license.

Rule 13 If these statutory advertisements are not published within the prescribed time and in the prescribed manner they are invalid. Thus the licensee will be well advised to remind the Local Government as to publication in the Gazette cases of neglect to do so having occurred—see sub rule (4). Sub rule (3) is under amendment to the form indicated, but has not been passed as the sheet goes to press

Rule 14 As to amendment of a license, after it has been granted, see para 9 of Introduction an rule 22

17. Notification of Grant of License.—If the applicant is willing to accept the license in the form approved by the Local Government, the Local Government shall, on receipt of an intimation in writing of such acceptance, publish the license in the local official Gazette, and notify that it has been granted.

18. Date of Commencement of License.—The date of a notification under rule 17 shall be deemed to be the date of commencement of a license.

19. Deposit of Map.—When a license has been granted, a map, showing, as regards such license, the particulars stated in clause (b), rule 9 shall be signed, and dated to correspond with the date of the notification of the grant of the license, by such officer as the Local Government may designate in this behalf and retained by him as the deposited map.

20. Deposit of Printed Copies.—When a license has been granted, the licensee shall, within thirty days, deposit printed copies of the license together with copies of the map for public inspection at his own office and at that of his agents (if any) and at the office of every local authority within the area of supply and shall furnish printed copies of the license to all persons applying for the same at a price not exceeding one rupee per copy.

Orders Supplementing or Amending Licenses.

21. Application for Written Consent of Local Government in Certain Cases.—Where a licensee desires the written consent of the Local Government under sub-section (5) of section 12 of the Act to enable him to open or break up the soil or pavement of any street not repairable by the Government or a local authority, or any railway or tramway, application for such consent shall be made in writing to such officer as the Local Government may designate in this behalf, and shall describe accurately the street, railway, or tramway which the applicant seeks power to open or break up and the names of the persons by whom such street is repairable, or who are for the time being entitled to work such railway or tramway, and the extent to which he proposes to open or break up the same.

22. Amendment of Licenses.—(1) No alterations or amendments in the terms and conditions of any license shall be made under clause (b) of sub-section (3) of section 4 of the Act, until they have been published by the applicant and by the Local Government; and the provisions of sub-rules (2), (3) and (4) of rule 13 shall apply to such publication.

(2) If any such alteration or amendment as is referred to in sub-rule (1) of rule 22 is made, it shall be notified by the Local Government in the local official Gazette.

CHAPTER IV.

CONDITIONS OF SUPPLY BY LICENSEE.

23. Precautions against Leakage before Connection.—(1) A licensee shall not connect the conductors and fittings on a consumer's premises with his works unless he is reasonably satisfied that the connection will not at the time of making

Rule 21 See the section quoted in the rule and the notes on the same in paragraph 11 of the Introduction. See also notes on definition of "street" in section 2 (m) of the Act.

Rule 23 (1). The licensee's test, before connection, is a guarantee that there is no excessive leakage at the time, and no more. The wiring of the building may be as bad as a jerryman can make it, and if it comes within the mischief of clause VI (1) of the Schedule to the Act, second proviso, sub-head (c), the licensee may discontinue the supply, as he may also under the rule next following; but he is not compelled to do so. In this connection see section 21 of the Act. It is the business of the consumer to keep his own installation in order and the limitations of a licensee's responsibility, after a connection has been made, are shown in rule 36. See also rules 40, 41, 43, 44, and the remarks in the Introduction paragraph 16, under "refusing to supply."

the connection cause a leakage from those conductors and fittings exceeding one five thousandth part of the maximum supply demanded on the consumer's premises

(2) Where a licensee declines to make a connection, in accordance with sub-rule (1) of rule 23, he shall serve upon the consumer a notice stating his reason for so declining

24 Leakage on Consumer's Premises.—(1) If at any time a licensee has reasons to believe that a leakage, likely injuriously to affect the use of energy by the licensee or by other persons, exists in the premises of a consumer then the licensee may give the consumer reasonable notice in writing, that he desires to inspect and test such wires and fittings belonging to the consumer as form part of the circuit

(2) If the consumer does not give all reasonable facilities for inspection and testing, or if a leakage from the consumer's conductors exceeding one five-thousandth part of the maximum supply demanded on the premises is discovered, the licensee may forthwith discontinue the supply of energy to the premises in question, giving immediate notice of the discontinuance to the consumer, and need not recommence the supply until the cause of the leakage has been removed.

25 Appeal to Electric Inspector in Regard to Leakage.—(1) Where a consumer is dissatisfied with the action of a licensee under rule 23 or rule 24 in refusing or in discontinuing, or in not recommencing the supply of energy to his premises, the conductors and fittings of such consumer shall, on his application and on payment of the prescribed fee, be tested for the existence of leakage by an Electric Inspector or other officer appointed to assist an Electric Inspector

(2) Any such test as is referred to in sub rule (1) shall be carried out within forty-eight hours of the application to make the same or on the payment of the prescribed fee, whichever is later

(3) If the Electric Inspector or other officer, as aforesaid, on testing finds that the leakage from the consumer's conductors is less than one five thousandth part of the maximum supply demanded on the premises, the Electric Inspector shall notify the licensee, and the licensee shall, within twenty four hours, commence or continue the supply of energy. Provided that in this case the licensee shall refund the amount of the prescribed fee to the consumer

(4) This rule shall be endorsed on every notice given under the provisions of rule 23 or rule 24

26 Declared Pressure of Supply to Consumers.—Before commencing to supply energy to a consumer, a licensee shall declare to the consumer the pressure at which he undertakes to give the supply, and the pressure shall not, without the written consent of the consumer or the previous sanction of the Local Gov-

Rule 24 (1) This deals with leakage alone, for defective apparatus see cl. VI (1) of the schedule to the Act 2nd proviso sub head (c) An insulated conductor may have a bare place on it through accident or design—the latter case being not uncommon vide *Delhi Electric Traction and Lighting Co. v. Ram Richpal and Ram Gopal* in notes to section 39—and in such a case the licensee would be entitled under the Schedule clause VI (1), second proviso head (c) to discontinue the supply, for such a state of affairs would be "likely to affect injuriously the use of energy by the licensee or by other persons"

Rule 24 (2) See Introduction, para. 16, 'Cutting off Supply'

Rule 24 (2) May forthwith discontinue The onus of protecting his property is on the owner the licensee considers the affect on other consumers This rule appears to have been overlooked in the past by many licensees, the matter is now also dealt with in section 20 (3) of the Act

Rule 25 (3) It will be observed that the sole question here is one of leakage if the leakage is not excessive, the licensee is compelled to recommence the supply, showing clearly that the way the consumer chooses to wire his premises is no concern of the licensee so long as his supply is not endangered Cf report on Rangoon case in paragraph 33 of the Introduction

Rule 26 For a case where penalties were inflicted for breach of this rule, see notes on section 34 of the Act

ernment, vary therefrom by more than 5 per cent in the case of low or medium pressure, or by more than 12½ per cent in the case of high pressure

27 Declared Frequency of Supply to Consumers.—Before commencing to supply energy to a consumer by means of an alternating current, a licensee shall declare to the consumer the frequency at which he undertakes to give the supply, and the frequency shall not, without the written consent of the consumer or the previous sanction of the Local Government, vary therefrom by more than 4 per cent

28 Examination of Licensee's Records by Consumers.—A consumer may, after giving not less than twenty four hours' notice to the licensee, enter any testing station established by the licensee, in accordance with clause XIII of the Schedule to the Act, and may examine the records of the tests made therein, and he may also take copies of or extracts from such records on payment to the licensee of a sum of one rupee for every such examination of a record covering a period of twenty four hours or any part of twenty four hours

29 Sealing of Meters.—A licensee may affix a seal to any meter maximum demand indicator or other apparatus placed upon a consumer's premises in accordance with section 26 of the Act, and to any cut out placed upon a consumer's premises in accordance with rule 38, and no person shall break such seal without giving the licensee, and, where the meter is the property of the consumer, the consumer also, not less than forty eight hours' notice in writing

30 Sale of Plans.—Copies of plans or sections such as are referred to in clause XVI of the Schedule to the Act shall be supplied by the licensee to every applicant at a price not exceeding one rupee per square foot

31 Point of Commencement of Supply.—The point at which the supply of energy by a licensee to a consumer shall be deemed to commence shall—

(a) where the amount of energy supplied to a consumer or the electrical quantity contained in the supply is ascertained by meter, be in respect of a conductor from the service line which passes through the meter the point at which such conductor enters the meter and in respect of a conductor from the service line which does not pass through the meter the point on such conductor nearest to the meter,

Rules 26 27 It is to be hoped that all Local Governments will insist on British Standard pressures and frequency in licenses or special sanctions. The percentage variation in these rules may be either above or below the declared value. It has been raised from 4 to 5 per cent, for carbon lamps the old figure was reasonable but modern lamps are less sensitive. For motors a variation of 5 per cent is not serious. The consumer ultimately benefits by the reduced capital expenditure consequent on the change. Technical developments of the last few years indicate that a variation of 6 per cent would now be reasonable, the change would react to the benefit of all parties.

Rule 29 If the meter is the property of the consumer he must keep it correct [as defined in rule 2 (u)] under section 26 (j) of the Act. If it is hired from the licensee the latter must be able to test it. The penalty for breaking a seal is found in rule 106. Tampering with meters is dealt with in section 44 of the Act.

Ibid And no person. The drafting of the rule from this point does not, it is submitted, carry out the original intention and appears to contemplate the possibility of the seal being legally broken by any person other than the licensee and consumer, which was certainly never intended. The intention it is believed is conveyed by the following redraft of the rule after the words "rule 38"—

and no person other than the licensee shall break any such seal

Provided that, where the meter is the property of the consumer, the consumer may break the seal on that meter forty eight hours after giving notice in writing to the licensee of his intention so to do

Rule 31 This rule is consequent on section 19 A of the Act added by the Indian Electricity (Amendment) Act 1922 the object of it being to settle the old controversy as to where the responsibility of license and consumer met. As pointed out in paragraph 16 of the Introduction under Point where supply begins the author thinks the matter was settled on wrong lines. The meter may belong to the consumer. See report in paragraph 33 of the Introduction on *Rango & Leach Trimoulay & Supply Co v King Emperor*

(b) where the amount of energy supplied to a consumer or the electrical quantity contained in the supply is not ascertained by meter, be the point at which the cut-out is inserted in the service-line by the licensee in accordance with rule 38.

Accounts and Forms.

32. Preparation and Submission of Accounts.—(1) Every licensee, unless exempted in accordance with section 11 of the Act, shall cause the accounts of his undertaking to be made up to the thirty-first day of December or the thirty-first day of March, at the option of such licensee, or to such other date as the Local Government may approve.

(2) Such licensee shall prepare and render an annual statement of his accounts in accordance with the provisions of the said section within a period of six months from such date as aforesaid, or such extended period as the Local Government may authorize after it is satisfied that the time allowed is insufficient owing to any cause not within the control of the licensee.

(3) The accounts shall be made up as far as circumstances permit in one or other of the prescribed forms set out in Annexures IV and V to these rules according as the licensee is or is not a local authority and may, at the option of the licensee, be rendered either in British Indian or in British sterling currency :

Provided that the Local Government may, by special or general order, direct that the accounts of any undertaking shall be made up in any form it may direct in such order.

33. Forms of Certain Requisitions.—Requisitions under sub-clause (4) of clause V or sub-clause (5) of clause VI, as the case may be, of the Schedule to the Act shall be made in the form set out in Annexure VI or Annexure VII to these rules.

CHAPTER V.

PRECAUTIONS FOR THE SAFETY OF THE PUBLIC.

General.

34. Application of Chapter.—The rules in this Chapter shall, unless there is anything repugnant in the subject or context, apply to every licensee and to every owner.

35. Dealing with Electric Shock.—Instructions, both in English and in the vernacular of the district, for the restoration of persons suffering from electric shock, shall be affixed in a conspicuous place in every generating station and sub-station and copies shall be obtainable from every Electric Inspector at a price to be fixed by the Local Government.

Rule 32. An undertaking of which the accounts cannot be prepared punctually needs overhauling. As to the audit of accounts so rendered, see clause 11 of the Schedule to the Act.

Rule 33. For laying down further distributing mains and for supply, respectively.

Rule 34. This would appear to be a clear statement, but it has been misinterpreted, by an official, as excluding consumers from the rules in the chapter, the wording "unless there is anything repugnant in the subject or context" seem as clear as words can be. Many of the rules expressly and others plainly, apply to the person who owns an installation or one "to whom the same belongs", and it would be utterly impossible for any one else to shoulder responsibility in many of these cases. Rules in the chapter that apply *only* to licensees or owners or both are so worded, but apart from its defined meaning the context shows where an owner is the person who owns something and no more.

Rule 34. "Owner" is defined in rule 2 (x). Many of these rules apply to consumers also, though it does not say so here.

Rule 35. Transforming and converting stations are "sub-stations". The suggestions for dealing with shock cases published by the *Electrical Review* and *Electrical Times* are generally used. By rule 104 the Electric Inspector can relax this in certain cases, also rules 36 to 40.

Precautions to be Adopted by Licensee.

36. Protection from Lightning.—A licensee shall adopt efficient means for protecting any portion of an electric supply-line or any support, guard-wire or bearer-wire of an electric supply-line which is exposed in such a position as to be liable to injury from lightning.

37. Responsibility of Licensee for his Works on Consumer's Premises.—A licensee shall be responsible that all electric supply-lines, fittings and apparatus belonging to him, or under his control, which may be on a consumer's premises, are maintained in a safe condition, and shall take all due precautions to avoid risk of causing fire on such premises by reason of his electric supply-lines, fittings or apparatus or any defect therein.

38. Cut-out on Consumer's Premises.—A licensee shall insert a suitable cut-out in each service-line (other than an earthed neutral conductor or the earthed external conductor of a concentric cable) within a consumer's premises, in an accessible position as close as possible to the point of entry. Such cut-out shall be contained within an adequately enclosed fireproof receptacle :

Provided that, where more than one consumer is supplied through a common service-line, each individual consumer (if he so requires) shall be given an independent cut-out at the point of junction to the common service.

39. Service-lines on Consumer's Premises.—The following provisions shall apply to service-lines and any apparatus in connection therewith on a consumer's premises, *viz.* :—

(1) All such lines, being underground lines, and all apparatus in connection therewith placed by a licensee shall be so insulated and protected as to be secure under all ordinary conditions against electrical, mechanical, chemical, or other injury to the insulation, and against access of moisture.

(2) From the point where any service-line enters a building, or becomes accessible without the aid of a ladder or other special appliance, such line and all apparatus in connection therewith shall be insulated and protected in the manner prescribed by sub-rule (1) of rule 39.

(3) Any metal forming part of the electric circuit of any such line shall not, unless connected with earth, be exposed so that it can be touched.

Precautions to be adopted by licensee.—The four rules covered by this cross-heading should, *mutatis mutandis*, apply also to any supplier of energy, whether licensed or not. The author must plead guilty to the oversight. Most of the rules in this chapter do so apply.

Rule 36. Expert opinion differs as to the value of lightning protection, and if the rule is disregarded with serious results the Courts decide on the evidence what are "efficient means." The rules purposedly do not specify apparatus.

Rule 37. The licensee's responsibility ends with his own apparatus, at the point of delivery shown by rule 31. A licensee suing for a fee for renewing his main cut-outs, on the plea that the rupture was the fault of the consumer, lost his case, as these fuses were held to be part of the service-line. *Lala Dinan Das v. Lahore Electric Supply Co.*, see pp 83, 327.

Rule 38. See amended definition of "service-line" in section 2 of the Act. It seems clear that the licensee must pay for this cut-out, and cannot pass on the cost to the consumer. The Advocate-General, Madras, has confirmed this opinion, but no case has been decided in the Courts. Rules 38 and 44 are quite distinct, and do not apply to the same cut-out where a consumer takes power from a licensee. Each party must put in a cut-out, under these rules respectively, and the party who is under a legal obligation to put it in must bear the cost, in the absence of a provision to the contrary. It is not dependent on the ownership of the service line or on whether the cut-out is a part of the service line or not. The insertion of this cut-out is a 'precaution to be taken by the Licensee.' The wording of the provision shall be given "is somewhat loose, the intention obviously is that the licensee shall insert the cut-out, for the automatic disconnection of the installation in case of a serious fault occurring."

Rule 39. See previous note. The consumer's premises may be a factory or a mine.

Precautions to be Adopted by Owners.

40. Precautions to be Adopted by Owners.—When an owner generates or uses energy—

(1) where bare conductors are used in a building, they shall be inaccessible without the aid of a ladder or other special appliance and shall have switches provided for rendering them dead whenever necessary ;

(2) no repair of any part of any electrical apparatus shall be effected while the part is charged to a pressure exceeding low pressure, except by an authorized person ;

(3) the supply of energy to every vehicle, travelling crane or the like shall be efficiently controlled by a suitable switch, so that by its means all pressure can be cut off from all apparatus concerned and from any device in connection therewith ;

(4) trailing cables for portable motors shall be specially flexible, heavily insulated and protected from mechanical injury ; where the protection is by means of metallic covering, the covering shall be in metallic connection with the frame of the motor.

Precautions to be Adopted by Consumers and Owners, Electrical Contractors and Electrical Workmen.

40-A. Precautions to be Adopted by Consumers and Owners, Electrical Contractors, and Electrical Workmen.—(1) No electrical installation work, including additions, alterations, repairs and adjustments to existing installations, except such replacement of lamps, fans, fuses, switches and other component parts of the installation as in no way alters the capacity and character of the installation, shall be carried out upon the premises or on behalf of any consumer or owner for the purposes of the supply of energy to such consumer or owner, except by an electrical contractor licensed by the local Government in this behalf, and under the direct supervision of a person holding a certificate of competency issued by the Local Government.

Provided that the local Government may by notification in the local official *Gazette* exempt any such description of work as aforesaid either generally or in the case of any specified class of consumers or owners from so much of this sub-rule as requires such works to be carried out by an electrical contractor licensed by the local Government in this behalf.

(2) This rule shall come into force in any province or part thereof on such date as the Local Government may by notification in the local official *Gazette* appoint.

Rule 40. This only applies to "owners," just as rules 36 to 39 only apply to licensees. Other rules apply indiscriminately to both and some to consumers and other persons to whom apparatus belongs.

Rule 40 (4). The frame of the motor must also be earthed ; see rule 46. In mines, rule 97 also applies.

Rule 40-A. Attention was called to the omission, in the third edition of this book, of the italic cross-heading to this new rule. As pointed out in the first note to section 3 of the Act, italic headings whether marginal or chapter or cross headings have no force of law, but are merely for convenience of reference.

Rule 40-A (2). This rule has been notified in Bombay Presidency, but is not in force in Madras, the United Provinces, or Burma. The reason why the rule has not been generally adopted is, no doubt, that while it is not difficult to pass tests sufficient to obtain a "certificate of competency" — with an implied Government guarantee—there is no warrant that the work done subsequently will conform to the required standard, which in India is deplorably low. The Act makes it clear that, unless the licensee's supply is interfered with, he may not control or interfere with the use of energy [section 21 (1)], though in certain specific cases he may refuse supply or cut-off supply (see Index : "Cutting off Supply," "Refusal to Supply." See remarks on the rule on p. 135.

Control of Energy.

40-B. Control of Energy.—(1) *The supply of energy at any pressure to every building or structure, or at any place, shall be efficiently controlled by suitable linked switches of requisite capacity to carry and break the current in each conductor simultaneously, placed near the point of entry of the electric supply-line on the consumer's or owner's premises, as the case may be, and in such a position as to be readily accessible to the consumer or owner.*

(2) *The supply of energy at any pressure to every apparatus which uses energy at a rate exceeding 250 watts, shall be efficiently controlled by suitable linked switches of requisite capacity to carry and break the current in each conductor simultaneously, placed near the apparatus in such a position as to be readily handled by the operator, so that by their means all pressure can be cut off from the apparatus concerned and from any device in connection therewith.*

(3) *The linked switches referred to in sub-rules (1) and (2) shall be mounted in one box and shall be protected by a mechanically strong metallic casing or metallic covering securely fastened throughout :*

Provided that, in places other than factories, if the supply is at low pressure, the protecting covering may consist of stout and durable insulating material, but it shall be so constructed that no metal parts shall be exposed.

(4) *In the case of motors using energy at a rate exceeding 250 volts, the linked switches specified in sub-rule (2) shall be in addition to and entirely separate from any starting switch or other device used in connection therewith.*

Electric Supply-lines and Apparatus.

41. Maintenance.—Every electric supply-line shall be maintained in a safe condition as regards both electrical and mechanical conditions by the person to whom the same belongs.

42. Accidental Charge.—All circuits and apparatus shall be so arranged by the person to whom the same belong that there shall be no danger of any part thereof becoming accidentally charged to any pressure beyond the limits of pressure for which it is intended.

43. Crossing Metallic Substances.—Where an electric supply-line crosses, or is in proximity to, any metallic substance, such precautions as an Electric Inspector may approve shall be taken by the licensee or the owner, as the case may be, against the possibility of the metallic substance becoming charged :

Provided that, where the electric supply-line was laid or erected previous to such metallic substance, the cost incurred in taking such precautions shall be refunded to the licensee or owner, as the case may be, by the person to whom the metallic substance belongs.

Rule 40-B. This rule was in process of being added while the pages were in the Press ; it makes further provision for the control of energy ; rule 51 makes somewhat similar provision for supply or use at medium or high pressure, but low pressure circuits (especially A.C.) may also be dangerous. Rule 95 for mines and oil fields is very similar. It will probably be altered finally, in which case an addendum will be put in. At present it is impracticable.

Rules 41 to 50. "Electric supply-lines and apparatus" apply generally to consumers as well as "owners" and others.

Rule 42. A common case of what may be roughly classified as accidental charge occurs on multiwire systems having a neutral wire. In such installations it is essential for safety that all switches shall be on the live, and not the earthed, wire ; double-pole *linked* switches being the only exception. This is always provided for in proper specifications, but it should be made obligatory by rule. It is suggested that a new sub-rule (2) should be added to rule 42 to the effect that "In every distributing system in which there is an earthed neutral conductor, all single-pole switches shall be inserted in the live wire by the person to whom the same belong." The last words are necessary because under rule 105 the responsibility for neglect might be cast on the licensee, who obviously cannot by any care ensure that the consumer (or his electrical contractor) has carried out the provision. There is a tendency to throw the onus of all accidents on the licensee.

Rule 43. An appeal lies from the Inspector's decision ; section 36 (3) of the Act, as amended in 1922. See also rule 64 as to guarding. The *intention* in framing this rule was that it should apply to

44. Cut-out.—Every electric supply-line (other than the earthed neutral conductor of any system or the earthed external conductor of a concentric cable) shall be protected, by the person to whom the same belongs, by a suitable cut-out.

45. Metal Casings.—All metal casings or metallic coverings containing or protecting any electric supply-line or apparatus shall be connected with earth, by the person to whom the same belong, and shall be so joined and connected across all junction-boxes and other openings as to make good mechanical and electrical connection throughout their whole length :

Provided that this rule shall not apply to isolated wall tubes or to brackets, electroliers, standards, switch or fan regulator covers or other fittings (other than portable hand lamps in factories) where the supply is of low pressure.

46. Connection with Earth of Frames of Generators, etc.—The frame of every generator, stationary motor, and, so far as is practicable, portable motor, and the metallic parts (not intended as conductors) of all transformers and regulating or controlling apparatus connected with the supply, shall be connected with earth by two separate and distinct connections with earth.

47. Junction-boxes.—The covers or doors of all junction-boxes or pillars in any street shall be so secured that they cannot be opened except by means of a special appliance.

48. Connection with Earth of a Multi-wire System.—In every distributing system in which there is a neutral conductor, where the pressure between the neutral conductor and an outer or phase conductor exceeds 125 volts, the neutral conductor shall be connected with earth by two separate and distinct connections with earth from the neutral bus-bar and in accordance with the following provisions, namely :—

(a) the connection with earth of the neutral conductor, shall be made at one point only on each distinct system, namely, at the generating station or sub-station, or both, as the case may be, and the insulation of the system shall be maintained at all other parts ;

(b) the current from the neutral conductor to earth shall, in the case of a licensee's direct current distributing system, be continuously recorded, and, if at any time it exceeds one-thousandth part of the maximum supply current, steps shall immediately be taken to improve the insulation of the system ;

(c) the connection with earth referred to in clause (a) of rule 48 shall not be made by the aid of, nor shall it be in contact with any water-main, gas-main or similar main not belonging to the licensee or owner, as the case may be, except with the consent of the owner thereof and of the Electric Inspector ; a resistance, not exceeding 20 ohms, may be inserted between the neutral bus-bar and earth, and, if so inserted, it shall be of sufficient cross-sectional area to carry the current which would pass should an outer or phase conductor become accidentally connected with earth ;

Rule 44. For earthed neutral conductors, see rules 48, 49 ; for concentric conductors, see rule 50. The present rule merely mentions these as exceptions to the generality of the rule, and does not, as has been argued, throw any responsibility for such earthing on a consumer ; the other rules quoted above, which are partly compulsory and partly permissive, read in conjunction with rule 105, deal with that aspect of the case. The effect of the rule is that it is incumbent on every consumer or other person who has an installation to put in a cut-out in each line ; the cut-out to be put in by the licensee under rule 38 is a different one. Both are necessary.

Rule 45. Despite the fact that the rule does not enforce earthing the casings of domestic apparatus, this is highly desirable where the pressure exceeds 200 volts D.C. or 100 A.C., in order to avoid shock.

Rule 46. A single earth plate complicates. Ceiling fan motors, suspended from insulators, obviously should not be earthed. An Electric Inspector may relax this rule ; see rule 104.

Rules 47 to 99. Where the pressure does not exceed 125 volts, the Electric Inspector may relax these ; see rule 104 (2).

Rule 47. See definition of "street" in the Act.

Rule 48 (a). The one point on each system, as defined above, may clearly refer to both a generating station and each sub-station.

(d) the connection with earth shall not be removed except for the purpose of testing, in which case it shall be made good again as soon as such test is finished, and a record of any such disconnection shall be kept by the licensee or owner, as the case may be :

Provided that the earth connection shall not be removed, in a licensee's system, except between 1 a.m. and 3 a.m. or, in an owner's system, while the generator is in operation or energy is being used.

49. Connection with Earth of Polyphase System.—The neutral point of the star-winding of each distinct polyphase multi-wire system may be either connected with earth or insulated.

50. Connection with Earth of Concentric Conductors.—When concentric conductors are used, the insulation shall be maintained throughout, except that the external conductor may be connected with earth at one point :

Provided that where energy is generated by an owner for use on his own premises a concentric conductor, the external conductor of which is uninsulated and earthed, may be used.

Medium or High Pressure.

51. Supply at Medium or High Pressure.—Where energy is to be supplied or used at medium or high pressure, notice shall be given to an Electric Inspector and the supply shall not be commenced, or continued, until or unless the following provisions have been or are complied with, namely :—

(a) all live parts of apparatus shall, unless accessible only to, and under the control of, an authorized person, be protected by mechanically strong metal casing or metallic covering securely fastened throughout ;

(b) suitable linked switches, of requisite capacity to carry and break the current, shall be inserted in each conductor, near the point of origin on the consumer's or owner's premises, as the case may be ;

(c) every conductor, unless only accessible to an authorized person, shall be, as far as is practicable, completely enclosed in a mechanically strong metal casing or metallic covering, securely fastened throughout or fixed in such other manner as may be approved in writing by an Electric Inspector ;

(d) the supply to every apparatus shall be efficiently controlled by suitable linked switches, of requisite capacity to carry and break the current, in each

Rules 48, 49. The former of these applies *only* when, as stated therein, the pressure exceeds 125 volts. The latter permits the neutral point of a polyphase multi-wire system (i.e. 3 or 4-wire) to be either earthed or insulated ; but if the pressure exceeds 125 volts, the former rule prescribes earthing. Practice favours the earthing of the neutral generally. It would perhaps be better if rule 49 began "Except as provided by rule 48 . . ." The earthing in rule 48 is obligatory ; that in rule 49, permissive.

Rule 50 On his own premises—The proviso is intended to cover cases where the energy is generated *exclusively* for such use ; it would be better if the word had been added.

Rules 51 to 54. "Medium or High Pressure" apply to *all* installations of the sort, including those of consumers as well as "owners" and other persons.

Rule 57 Or continued. These words were inserted in 1911 to cover cases existing when the rule came into force. While it is clear that the licensee must satisfy himself that the rule is complied with before he connects up the installation, it appears to the Author that the subsequent maintenance, for which under rule 41 the consumer is clearly responsible, enables the supply to be continued without interference from the licensee [section 21 (1)], unless faulty maintenance is brought to his notice by an accident occurring. But consumers owning the apparatus must comply and continue to comply—see rules 41 to 44—and the Electric Inspector can compel compliance. In sub-rule (a) note the alternatives of isolation or protection. Expanded metal is generally used. Regarding sub-rule 51 (c), an appeal lies, see section 36 (3) of the Act, as amended in 1922.

Ind sub-rule (a) The intention of this rule seems to be that live parts of apparatus, unless under the control of an authorized person shall be so situated and protected as not to be liable to accidental or casual contact, and had the rule been so drawn, it would have been easier to comply with. The rule clearly applies in generating stations and sub-stations. It is impracticable that all persons in these places (omitting permitted visitors and trespassers) shall be "authorized", for stockers, cleaners and contractors' labourers etc., will not necessarily be "competent" to handle the live apparatus

conductor, placed near the apparatus in such a position as to be readily handled by the operator, so that by their means all pressure can be cut off from the apparatus concerned and from any device in connection therewith,

(e) the word "CAUTION," both in English and in the vernacular, shall be affixed in a conspicuous position near every generator (being the property of an owner) and near every motor, and every controlling or regulating apparatus in connection with the same

52 Introduction of Multi-wire System to Buildings.—Where the conductors of a multi wire system between any of which there is medium or high pressure, are brought into a building for utilization at low pressure, the supply shall be delivered to two or more pairs of terminals, and the wiring from those terminals shall be kept separate and distinct. If in any such case, two or more switches, terminals or cut-outs between any of which there is a difference of pressure exceeding 250 volts, are fitted within reach of one another, all their live parts shall be accessible only to authorized persons

53 Main Switchboard.—Where the pressure is medium or high, there shall be, in front of every main switchboard a space of not less than 3 feet in width, and, if there are any attachments or bare connections at the back of the switchboard, the space (if any) behind the switchboard shall be either less than 9 inches, or more than 30 inches in width, measured from the furthest out standing part of any attachment or conductor. If the space behind exceeds 30 inches in width, there shall be a passage way clear to a height of not less than 6 feet, save as regards any horizontal supports of the switchboards, which may be placed at a height of not less than 4 feet 6 inches

54 Distinction of Circuits of Different Pressure.—In every generating station, sub station, junction-box, or pillar in which there are any circuits or apparatus intended for medium as well as high pressure, the respective circuits shall be made readily distinguishable from one another

High Pressure

55 Approval of High Pressure Supply.—(1) A high pressure supply shall not be delivered to any person, other than a distributing licensee, except with the approval in writing of an Electric Inspector, and subject to such conditions (if any) as such Inspector may think reasonable and proper in the circumstances, and the installation shall not be brought into use until it has been inspected by an Electric Inspector or other officer appointed to assist an Electric Inspector

amongst which their work lies. Sub rule (c) uses the words 'as far as practicable', (a) does not. The inference is that all live parts which are accessible shall be covered in as specified. While practicable in most places this is not so as regards many live parts in generating and sub stations.

Rule 52 This rule must be read as a whole, the second part to some extent qualifies the first part and the two would perhaps be better separated by a semi colon. The rule has been misapplied officially in consequence. The words 'a difference of pressure exceeding 250 volts' no doubt mean beyond the limit of low pressure, but the definition in rule 2 (c) (i) shows that it would have been preferable to say so. At the present day the practice of utilizing medium pressure on the distributing mains is universal and it is necessary in all but the smallest installations to bring medium pressure into buildings. At some point then the component low pressure circuits must be separated from one another. The first part of this rule is obviously qualified by the second part. If the medium pressure terminals, etc. of the licensee are only accessible to him or to persons authorized by him, as e.g., where they are in a sealed metal receptacle the rule is complied with. From that receptacle (or whatever it may be) the wiring must be kept separate and distinct. It would seem hardly necessary to draw attention to anything so obvious had not a case actually arisen where the opposite view was taken. In the circumstances, the second sentence should perhaps be made a proviso.

Rule 53 This may be relaxed by the Electric Inspector, see rule 104

Rule 54 This may be done by painting or otherwise. The separate phase wires of a 3 phase circuit are often coloured for convenience of making connections: the leading phase red, the leading phase blue, the third phase white (sometimes yellow), the neutral phase which is used green. For direct current circuits and on batteries the positive is generally red also.

Rule 55, (1) Inspected—This implies that the result of the inspection is satisfactory, or should be so.

(2) Where energy is to be used by an owner at high pressure, the installation shall not be brought into use except with the approval in writing of an Electric Inspector and subject to such conditions (if any) as he may think reasonable and proper in the circumstances.

(3) When the position of a high pressure motor or other apparatus is changed notice shall forthwith be given to the Electric Inspector showing the extent and nature of the change of position.

56. Testing of Insulation of High Pressure Circuit. (1) A high pressure circuit, other than an aerial line, shall not be brought into use unless the insulation of every part thereof has withstood the continuous application, during one minute, in the case of every electric supply-line, machine, device or apparatus, of a pressure 100 per cent. greater than the maximum pressure to which it is intended to be subjected in use; and the licensee or owner, as the case may be, shall duly record the results of each test and shall forward the result to an Electric Inspector:

Provided, first, that the testing pressure shall in no case be less than 2,000 volts:

Provided, secondly, that an Electric Inspector may, if he thinks fit, accept the manufacturer's certified tests as complying with this rule.

Provided, thirdly, that, where the normal working pressure exceeds 6,600 volts, the testing pressure need not exceed the working pressure.

(2) A high pressure electric supply-line shall, during its use, continue in the sole charge of an authorized person.

57. High Pressure Electric Supply-lines and Apparatus placed above Ground.—All high pressure apparatus, including every portion of any high pressure electric supply-line (other than an aerial line) placed above the surface of the ground, otherwise than in a sub station, or in a compartment specially arranged for the purpose and accessible only to authorized persons, shall be completely enclosed in, or protected by, a mechanically strong metal casing or metallic covering securely fastened throughout; and all circuits and apparatus in connection with the same shall be marked at frequent intervals with the word "CAUTION," both in English and in the vernacular.

Aerial Lines—all pressures.

58. Minimum Strength of Conductors of Aerial Lines.—No conductor of an aerial line shall have a less breaking stress than 700 lb.

Provided that, where the span is less than 50 feet and on an owner's premises, and the pressure does not exceed 250 volts, a conductor having a breaking stress of not less than 300 lbs. may be used.

59. Maximum Intervals between Supports.—The conductors of an aerial line shall be attached to supports at intervals not exceeding the safe limits based on the breaking strain of the conductor and the factor of safety prescribed in rule 61.

Rule 56 This has been completely recast from its form in the 1911 rules, in accordance with modern practice and to meet the views of manufacturers as far as possible. The Electric Inspector may relax sub rule (1) under rule 104. The third proviso however is anomalous, a circuit intended for 5000 volts would under the rule have to withstand a test at 10,000 volts, whereas one intended for 10,000 volts would require just the same. But 6600 volts is a standard normal pressure, and 5000 volts is not. In practice no hardship results.

Rules 55 to 65 Aerial lines apply to all aerial lines no matter to whom they belong owners consumers and others.

Rule 55 This admits the use of No. 10 S.W.G. hard drawn copper wire. The limits of low pressure would be preferable to '250 volts', see definition in rule 2 ().

Provided that, where such a line is erected in, over, along or across any street, the interval shall not, without the consent in writing of the Electric Inspector, exceed 220 feet.

60. Connection with Earth of Metal Supports.—Every metal support of an aerial line placed in the ground, or in such a position as to be accessible without the use of a ladder or other special appliance, shall be connected with earth.

61. Factor of Safety.—The factor of safety of an aerial line shall be—

- (i) for wooden or ferro-concrete supports, at least four ;
- (ii) for iron or steel supports, at least three ;
- (iii) for guard-wires or bearer-wires, at least three ;
- (iv) for conductors, at least three ;

under all conditions, the maximum wind pressure being specified by the Local Government in each case ; for cylindrical bodies the effective area shall be taken as two-thirds of the sectional area exposed to wind pressure :

Provided that, in localities where aerial lines are liable to accumulations of ice or snow, the Local Government may, by order in writing, specify such factor of safety as it may think fit and the conditions under which it is to be calculated.

62. Height from Ground and Distance from Buildings.—(1) No conductor of an aerial line (not being a trolley wire or a traction feeder on the same support as a trolley wire) erected in, over, along or across any street, shall be at a less height from the ground than 20 feet.

(2) No conductor of an aerial line shall be accessible, either from the ground or from any building or structure, whether permanent or temporary, except by the aid of a ladder or other special appliance.

(3) (a) If, at any time subsequent to the erection of an aerial line, any person proposes to erect a new building or structure, whether permanent or temporary, or to make in or upon any building or structure any permanent or temporary addition or alteration, he shall, if such building, structure, addition or alteration would render the aerial line accessible otherwise than by the aid of a ladder or other special appliance, give notice in writing of his intention to the licensee or owner, as the case may be, and to the Electric Inspector, and shall furnish therewith a scale drawing showing the proposed building, structure, addition or alteration and the scaffolding required during its construction, and shall not commence work upon the building, structure, addition or alteration until the Electric Inspector has certified that neither during nor after the execution of the work will the aerial line be so accessible.

Rule 59, proviso. The definition of "street" in section 2 of the Act is very wide ; but it is subject to the context. Here the context plainly shows that public roads and the like are intended. The rule can be relaxed by the Electric Inspector, under rule 104, to this extent. For transmission lines, spans of 220 feet would generally be absurd ; on trolley wires, the span may not exceed 140 feet—rule 82.

Rule 60. The Electric Inspector can relax this, under rule 104 ; but he would very seldom relax it in practice. The proper earthing of metal supports—poles, stay wires, struts, etc., by the person to whom the same belong is of the very greatest importance for the avoidance of accidents. Animals have on many occasions been killed by making contact with "live" poles or stays ; and human beings occasionally also, see p. 160.

Rule 61. Meteorological records show that the maximum wind pressures recorded in various parts of India and Burma do not exceed 10 lb. per square foot except on a fairly wide strip around the coast, and 15 lb. is only exceeded in four narrow 40 lb. cyclone areas in Sind, Madras, Bengal and Burma respectively. All Local Governments have maps of these areas showing the zones, and the Frontispiece to this volume is based on these. In the hills, snow accumulations have brought wires up to 4 inches in diameter over whole spans ; but high winds seldom coincide with such conditions in India. The factors of safety allowed by the Electricity Commissioners in Great Britain are, for wood or ferro-concrete $3\frac{1}{2}$, for steel $2\frac{1}{2}$, and for the conductors, at 22° F., 2.

Rule 62 (2), (3). These have been completely re-cast since they were originally made, under Notification of April, 1924. The words "No such conductor" formerly in sub-rule (2) mean "No conductor of an aerial line," and an amendment making this change is under consideration as these pages go to press, see Notification of the Government of India, Department of Industries and Labour, No S-601, dated 29th November, 1932. Sub-rule (3) is very involved, and there was originally no penalty for a breach of it, this omission was made good by Notification dated Delhi, 13th November, 1925, when words were added to rule 107 specifically dealing with breach of rule 62 (3) (a).

(b) On receipt of such notice the licensee or owner, as the case may be, shall, without undue delay, so alter the aerial line as to ensure that it will not be accessible, in such manner as to contravene the provisions of sub-rule (2), either during or after the execution of the work, and may recover the reasonable cost of such alteration from the person from whom the notice was received :

Provided that the licensee or owner, as the case may be, may, before so altering the aerial line, require the person from whom the notice was received to deposit the estimated cost of such alteration :

Provided, further, that an Electric Inspector may, if he is satisfied that the aerial line has been so guarded as to secure the protection of persons and property from injury or risk of injury, permit the work to be executed prior to, or, in the case of a temporary addition or alteration, without, the alteration of the aerial line.

(4) Where an aerial line is on a consumer's or an owner's premises, the height from the ground, or from any mineral or refuse dump, and from parts of buildings or structures to which persons have access shall (unless the conductors are adequately guarded) be not less than 15 feet or such greater height as may be necessary to prevent danger.

63. Safety Device. (1) Every aerial line (not being suspended from a dead bearer-wire and not being a trolley-wire) erected in, over, along or across any street or in any factory or mine shall be protected with a device approved by an Electric Inspector for rendering such line electrically harmless in case it breaks.

(2) Every such aerial line on a consumer's or an owner's premises shall, if the pressure exceeds the limits of low pressure, be similarly protected.

64. (1) Lines Crossing or Approaching each Other. (2) Lines Crossing Trolley-wires. (3) Guard-wires. (4) Earthing Devices. (1) (a) Where an aerial line crosses or is in proximity to (i) any telegraph wire, or (ii) an aerial line belonging to some other person, the licensee or owner (as the case may be) shall ensure that his aerial line is so protected as to guard against the possibility of it coming into contact with the telegraph wire or other aerial line.

(b) Within twenty-one days of receiving notice that a new telegraph wire or aerial line is, or is about to be, erected in proximity to his aerial line, the licensee or owner (as the case may be) shall effect the protection referred to in clause (a).

(c) Where the licensee or owner (as the case may be) erects a new aerial line in proximity to any telegraph wire, or to any aerial line not belonging to him, he shall not bring the same into use until he has complied with clause (a).

(d) In all cases referred to in the preceding sub-rules the protection shall be carried out at the expense of the person whose line is last erected and to the satisfaction of the Electric Inspector.

(e) Where lines cross each other, the crossing shall be made in a direction as nearly at right angles as the nature of the case admits.

(f) All guarding arrangements should ordinarily be erected on the posts of the owners or licensees who shall, in that case, be responsible for their efficient maintenance.

Rule 63 (1). Many such devices have been in use for years in India, and the cost is small when set against immunity from accidents, of which there were many at one time. An appeal lies from the decision of the Electric Inspector, see sections 36 (3) of the Act as amended. He can also relax the rule, under rule 104. "Dead" is defined in rule 2 (b). Except in areas of high wind pressure (see note on rule 61) automatic devices are perhaps unnecessary on wires over 2/0 S.W.G.; if so relaxation can be allowed by the Electric Inspector.

Rule 64. In the revised rules of 1902 various pre-existing rules as to guarding have been brought together for convenience. The licensee or owner is responsible for maintenance, and therefore the guards should generally be on their own posts. "Telegraph" includes a telephone; vide definitions of the Indian Telegraph Act, 1885, which are incorporated by reference in this Act—see para. 12 of the Introduction. See also rule 43.

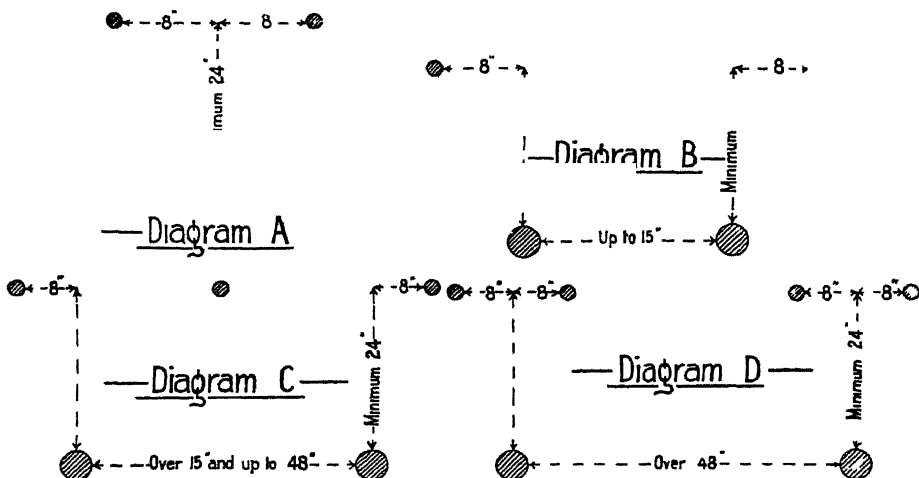
(2) In the case of a crossing over a trolley-wire the guarding will be in accordance with the following conditions (*vide* also attached diagrams), namely :—

(a) Where there is only one trolley-wire two guard-wires shall be erected as in diagram A.

(b) Where there are two trolley-wires and the distance between them does not exceed 15 inches two guard-wires shall be erected as in diagram B.

(c) Where there are two trolley-wires and the distance between them exceeds 15 inches but does not exceed 48 inches, three guard-wires shall be erected as in diagram C.

(d) Where there are two trolley-wires and the distance between them exceeds 48 inches, each trolley-wire shall be separately guarded as in Diagram D.



(e) The rise of the trolley boom shall be so limited that if the trolley leaves the trolley-wire it shall not foul the guard-wires.

(f) Where a telegraph wire is liable to fall or be blown down upon an arm, stay-wire or span-wire, and so slide down upon a trolley-wire, guard hooks shall be provided to prevent such sliding.

(3) Where guard-wires are used they shall fulfil the following conditions, namely :—

(a) Every guard-wire shall be connected with the earth at each point at which its electrical continuity is broken and, in the case of electric traction-lines, shall also be connected, at intervals of not more than five spans, with the rails.

(b) Every guard wire shall have a breaking stress of not less than 1500 lb., and shall, if made of iron or steel, be galvanized.

(c) Every guard-wire, or cross-connected system of guard wires, shall have sufficient current carrying capacity to ensure the rendering dead, till the contact has been removed, of any live wire coming into contact with it, without risk of fusing of the guard wire or wires.

Rule 64 (3) (b) The strength required is on the high side for modern practice, & No. 8 S.W.G. wire being commonly used in Great Britain. In Circular (E 17) dated August 1911, the British Post Office Engineering Department say: "Conductors covered with a satisfactory weather proof insulating material will be accepted in lieu of guard wires, provided that the pressure to earth of the power current does not exceed 125 volts alternating current or 250 volts continuous current. Further, in the case of systems within these limits of pressure where an earthed return or a neutral conductor is employed, bare wire may be used for the earthed return or neutral conductor."

(d) Every guard-wire or system of guard-wires and its supports shall have sufficient strength to carry without breaking the extra load which may be put on it by the fall of any or all the wires guarded.

(4) Alternative methods of guarding may be substituted with the approval of the Electric Inspector.

65. Service-lines from Aerial Lines.—No service-line or tapping shall be taken off an aerial line otherwise than at a point of support.

66. High Pressure Aerial Lines.—High pressure aerial lines shall not be brought into use until they have been approved by an Electric Inspector, and, where such lines are used, the licensee or owner, as the case may be, shall make arrangements so as to prevent any person from climbing up any of the supports without the aid of a ladder or special appliance.

67. Suspending of Aerial Lines.—Every aerial line, if covered with insulating material, shall be efficiently suspended from a bearer-wire or bearer-wires, by means of insulating hangers at distances of not more than 3 feet apart; and every bearer-wire, if made of iron or of steel, shall be galvanized.

68. Unused Aerial Line to be Removed.—Where an aerial line, erected in, over, along or across any street, ceases to be used as an electric supply-line, it shall be maintained in a safe mechanical condition in accordance with the provisions of rule 61 or, if so required by an Electric Inspector, be removed within a period of fourteen days from the date of such Inspector's requisition for removal.

Electric Traction.

69. Additional Rules for Electric Traction.—Rules 70 to 83 shall apply in the case of energy used for purposes of traction where the provisions of Part III of the Act apply. In these rules, the conductor used for transmitting energy to a vehicle is referred to as the "line," and the other conductor as the "return."

70. Pressure of Supply to Vehicle.—Notwithstanding the provisions of rule 55, the pressure of supply on any trolley-wire or other conductor used in direct electrical and mechanical connection with any vehicle shall not be high, except with the written approval of the Local Government and subject to such conditions (if any) as the Local Government may think reasonable and proper in the circumstances.

71. Insulation of Lines and Returns.—Every line shall be insulated throughout and every return may be insulated throughout or may be uninsulated to the extent hereinafter provided.

72. Insulation of Returns.—Where any rails on which cars run, or any conductors, laid between or within 3 feet of such rails, form any part of a return, such part may be uninsulated. All other returns or parts of a return shall be insulated, unless of such conductivity as to secure the conditions required by rule 74.

Rule 65. There may be cases where tapping a line in a span is the lesser evil, as e.g., where the main runs close to and parallel with buildings requiring supply; in such a case it is probable that an Electric Inspector would be prepared to relax the rule, if he had power to do so; but at present this is only so where the pressure does not exceed 125 volts [rule 104 (2)]. The Local Government has the required power, and would no doubt exercise it on the advice of the E.I.; but, at the next revision, the inclusion of No. 65 in rule 104 would be justified.

Rule 66. An appeal lies; see section 36 (3) of the Act, as amended in 1922. It is for the Court to decide whether the arrangements are adequate.

Rule 67. In modern electrical engineering practice, insulated overhead wires are only used in short lengths, where desirable for protection from contacts accidentally occurring with trees, etc. The British Post Office uses much "weatherproof" wire, without any bearer line, and generally speaking a bearer wire does more harm than good.

Electric traction. These rules are supplementary to, and not in place of, such of the previous rules of the Chapter as may be applicable, and apply to electric traction to the extent shown by section 30 of the Act, whether on the surface or underground. Alternating current traction would require special rules probably; some of those in force would clearly be inapplicable and could be relaxed under rule 103 or 104. As to electric traction on railways, see the Introduction, paragraph 34. The subject is fully dealt with in "Electrical Engineering Practice"; see p. 1, footnote.

73. Uninsulated Return to be Negative.—(1) Where any part of a return is uninsulated, it shall be connected with the negative terminal of the generator.

(2) Where the owner's uninsulated return is in proximity to any metallic pipe, structure or substance not belonging to him, he shall, if so required by the person to whom such pipe, structure or substance belongs, connect his return therewith at the expense of such person.

74. Earth Return Current.—(1) Where the return is partly or entirely uninsulated, the owner shall, in the construction and maintenance of his system, adopt such means for reducing the difference produced by the current between the potential of the uninsulated return at any one point and the potential of the uninsulated return at any other point as to ensure that the difference of potential between the uninsulated return and any metallic pipe, structure or substance in the vicinity shall not exceed four volts, where the return is relatively positive, or one and one-third volts, where the return is relatively negative.

(2) The person to whom any such pipe, structure, or substance as is referred to in sub-rule (1), belongs, may, in respect of the same, require the owner of the uninsulated return at reasonable times and intervals, to ascertain by test in his presence, or in that of his representative, whether the condition specified in the said sub-rule is secured; and, if such condition as aforesaid is found to be secured, all reasonable expenses of, and incidental to, the carrying out of the test shall be borne by the owner of the metallic pipe, structure or substance.

75. Difference of a Potential on Return.—Where the return is partly or entirely uninsulated, the owner shall keep a continuous record of the difference of potential, during the working of his system, between every junction of an insulated return with an uninsulated return and the point on the route most distant from that junction, and the difference of potential shall not, under normal running conditions, exceed a mean value between the highest momentary peak and the average for the hour of maximum load of seven volts.

76. Leakage on Conduit System.—Where both the line and the return are placed within a conduit, the following conditions shall be secured in the construction and maintenance of the system :—

(a) Where the rails are used to form any part of the return, they shall be electrically connected, at distances apart of not more than 100 feet, with the conduit by means of copper strips having a cross-sectional area of at least one-sixteenth of a square inch or by other means of equal conductivity. Where the return is wholly insulated and contained within the conduit, the latter shall be connected with earth at the generating station or sub-station through an instrument suitable for the indication of any contact or partial contact of either the line or the return with the conduit.

(b) The leakage-current shall be ascertained daily, before or after the hours of running, when the line is fully charged; and, if at any time it is found to exceed one ampere per mile of single tramway track, the transmission and use of energy shall be suspended unless the leakage is stopped within twenty-four hours.

77. Leakage on other than Conduit System.—Where both the line and the return are not placed within a conduit, the leakage-current shall be ascertained daily before or after the hours of running, when the line is fully charged; and, if at any time it is found that it exceeds one-half of an ampere per mile of single tramway track, the transmission and use of energy shall be suspended unless the leakage is stopped within twenty-four hours.

Rule 75. Despite the changes made in this rule, following the practice of the British authorities seven volts is near the danger limit and is not intended to be a figure to be worked up to, but a maximum. The technical considerations applicable to this rule and all those near it are discussed full in volume 3 of "Electrical Engineering Practice" (Mearns and Neale; Chapman & Hall, London).

78. Passengers not to have Access to Electric Circuit.—Precautions to the satisfaction of an Electric Inspector shall be taken by the owner of every vehicle to prevent—

(a) the access of passengers to any portion of the electric circuit where there is danger to them of receiving an electric shock ;

(b) any metal handrail or other metallic substance liable to be handled by passengers becoming charged.

79. Current Density in Rails.—Where any rails on which cars run are used as a return, the current density in such rails shall not, under ordinary working conditions, exceed nine amperes per square inch of cross-sectional area.

80. Isolation of Sections.—Every trolley-wire shall be constructed in sections not exceeding one mile in length, and means shall be provided for isolating each section.

81. Minimum Size and Strength of Trolley-wire.—No trolley-wire shall be of less cross-sectional area than eight one-hundredths of a square inch nor shall it have a less breaking stress than 4,500 lb.

82. Height of Trolley-wire and Length of Span.—A trolley-wire or a traction feeder on the same supports as a trolley-wire shall nowhere be at a height from the surface of the street of less than 17 feet, except where it passes under a bridge or other fixed structure, or through or along a tunnel or mine shaft or the like, in which case it shall be suspended to the satisfaction of an Electric Inspector. The intervals between the supports shall not exceed 140 feet.

83. Records.—(1) The owner shall, so far as is consistent with his system of working, keep the following records, namely :—

(a) daily records showing—

the maximum working current from the source of supply ;
the maximum working pressure at the source of supply ;
difference of potential, as required by rule 75 ; and
the leakage-current (if any), as required by rule 76 and rule 77.

(b) occasional records showing—

every test made under rule 74 ;
every stoppage of leakage, together with the time occupied ; and
particulars of any abnormal occurrence affecting the electrical working of the system.

(2) These records shall be open to inspection by an Electric Inspector or by any person authorized in writing by an Electric Inspector.

Mines and Oil-fields.

84. Additional Rules for Mines and Oil-fields.—(1) Rule 85 and Rules 87 to 102 shall apply in case of energy used in mines where the provisions of Part III of the Act apply, but they shall not apply in the case of any apparatus used above ground, except such as may directly affect the safety of persons below ground.

(2) The said rules and rule 86 shall also apply in case of energy used in oil-fields.

85. Responsibility for Observance.—(1) It shall be the duty of the owner, agent, or manager of the mine or of the agent of any company operating in the

Rules 78 and 82. An appeal lies from the Inspector's decision ; see section 36 (3) of the Act, as amended in 1922.

Rule 82. Length of span. This is only for trolley wires ; see rule 59 and notes thereto.

Mines and oil-fields. These rules are supplementary to, and not in place of, such of the previous rules in this Chapter as may be applicable. Electricity in mines is fully dealt with in "Electrical Engineering Practice," see p. 1, footnote.

Rule 85. The terminology employed agrees with that used in the Indian Mines Act and in the regulations made by the Warden of the Burma oil-fields respectively.

oil-field, or of the owner of one or more drilled wells situated in the oil-field to comply with and enforce the following rules, and it shall be the duty of all persons employed to conduct their work in accordance with the rules.

(2) An authorized person shall be on duty in every mine or oil-field while energy is being used therein.

86. Notices.—On or before the first day of February in every year an annual return giving the size and type of apparatus and any particulars as to the circumstances of its use which may be required by the person to whom the return is to be sent shall be sent by the person specified in rule 85 in the form set out in Annexure IX to these rules :

Provided that this rule shall not apply to telephones and signalling apparatus or to low pressure installations for lighting only.

87. Plans.—(1) A proper plan on the same scale as the plan kept at the mine in fulfilment of the requirements of the Indian Mines Act, 1923 [IV of 1923] shall be kept in the office at the mine showing the position of all fixed apparatus and conductors in the mine, other than lights, telephones or signalling apparatus, or cables for the same. The said plan shall be corrected every six months, and the date of correction entered on the plan by the Manager of the mine, and it shall be produced to an Electric Inspector or an Inspector of Mines at any time on his request.

(2) A similar plan, on a scale not less than 16 inches to the mile, shall be kept by the manager or owner of one or more wells in any oil-field, showing similar particulars and subject to correction and inspection as prescribed in sub-rule (1).

(3) A similar plan, on such scale as the Local Government may require, shall be kept in the office of the licensee or person transmitting or distributing energy in a mine or oil-field, showing the position of all electric supply-lines under his control, and subject to correction and inspection as prescribed in sub-rule (1).

88. Lighting Communications and Fire Precautions.—(1) In all places in a mine lighted by electricity, where failure of the electric light at any time would be likely to cause danger, one or more safety lamps or other proper lights shall be kept continuously burning.

(2) Efficient means shall be provided in every mine for communicating between the place in which the switchgear provided under sub-rule (1) of rule 95 is erected and the shaft bottom or main distributing centre in the pit.

(3) Appliances for extinguishing fires shall be kept ready for immediate use in every place in a mine containing apparatus, other than cables, telephones and signalling apparatus.

89. Isolation and fixing of Transformer, Switchgear, etc.—(1) Where necessary to prevent danger or mechanical damage, transformers and switchgear shall be placed in a separate room, compartment, or box.

(2) Unless the apparatus is so constructed, protected, and worked as to obviate the risk of fire, no inflammable material shall be used in the construction of any room, compartment, or box containing apparatus, or in the construction of any of the fittings therein. Each such room, compartment, or box shall be substantially constructed and shall be kept dry.

(3) Adequate working space and means of access clear of obstruction and free from danger shall, in so far as circumstances permit, be provided for all apparatus that has to be worked or attended to, and all handles intended to be operated shall be conveniently placed for that purpose.

Rule 86. This rule applies in oil-fields only : see rule 84 (i) and (2).

Rule 87. Act VIII of 1901 was repealed by Act IV of 1923 ; see Table of Enactments p. xvi.

Rule 88 (2). The Court decides whether means are " efficient " ; the rules are not a specification.

Rule 89 (1). " Danger " is defined above, in rule 2.

90. Method of Earthing.—Where earthing is necessary it shall be carried out in a mine by connection to an earthing system at the surface of the mine, and, in all cases, in a manner approved by an Electric Inspector.

91. Construction and Insulation of Apparatus, and Earthing of Same.

(1) All apparatus and conductors shall be sufficient in power and size and of sufficient mechanical strength, for the work they may be required to do, and so constructed, installed, protected, worked and maintained as to prevent danger so far as is reasonably practicable. The exposure of live parts shall be avoided.

(2) All insulating material shall be chosen with special regard to the circumstances of its proposed use. It shall be of mechanical strength sufficient for its purpose, and, so far as is practicable, it shall be of such a character or so protected as fully to maintain its insulating properties under working conditions of temperature and moisture.

(3) Every part of a system shall be kept efficiently insulated from earth, except that (i) the neutral point of a polyphase system may be earthed at one point only; (ii) the mid-voltage point of any system, other than a concentric system, may be earthed at one point only; and (iii) the outer conductor of a concentric system shall be earthed.

(4) Earth or fault detectors or recorders shall be connected up in every system in a mine to show immediately any defect in the insulation of the system. The readings of these instruments shall be recorded daily in a book kept at the generating station, sub-station or switch room.

92. Earthing Metal, etc.—(1) All metallic sheaths, coverings, handles, joint-boxes, switchgear frames, instrument covers, switch and fuse covers and boxes, and all lampholders, unless efficiently protected by an earthed or insulating covering made of fire-resisting material, and the frames and bedplates of generators, transformers, and motors (including portable motors), shall be earthed by connection to an earthing system in the manner prescribed in rule 90.

(2) Where the cables are provided with a metallic covering constructed and installed in accordance with Rule 96 (d), such metallic covering may be used as a means of connection to the earthing system. All the conductors of an earthing system shall have a conductivity at all parts and at all joints at least equal to 50 per cent. of that of the largest conductor used solely to supply the apparatus a part of which it is desired to earth:

Provided that no conductor of an earthing system shall have a cross-sectional area of less than .022 of a square inch.

(3) All joints in earth conductors and all joints to the metallic covering of the cables shall be properly soldered or otherwise efficiently made. No switch, fuse, or circuit breaker shall be placed in any earth conductor.

(4) This rule shall not apply (except in the case of portable apparatus) to any system in a mine in which the pressure does not exceed low pressure direct current or 125 volts alternating current.

93. Motors and their Transformers.—(1) Where energy is distributed at a pressure higher than medium pressure (i) it shall not be used without transformation

Rule 90. Expert evidence is divided as to the best methods of earthing; they can be threshed out between the Electric Inspector and the other parties concerned. An appeal lies from the Inspector's decision under section 36 (3) of the Act, as amended in 1922.

Rule 91 (1). "Danger" is defined above.

Rule 91 (3). Cf. rules 48 to 50 *supra*. In the present rule, the outer conductor of a concentric cable shall (not may) be earthed. *

Rule 92. Cf. rule 46. There is unnecessary overlapping, but in its absence the importance of earthing the frames of generators and motors in mines might be overlooked. Under rule 46, two separate and distinct earth connections are required, and that rule applies in mines as elsewhere, though the provision is not here repeated. See rule 96 b (v) as to British Standards for armouring.

to medium or low pressure except in fixed machines in which the high pressure parts are stationary, and (ii) portable motors under 20 H P. shall be supplied through a transformer stepping down to medium or low pressure.

(2) Where energy is transformed, suitable provision shall be made to guard against danger by reason of the lower pressure apparatus becoming accidentally charged above its normal pressure by leakage from, or contact with, the higher pressure apparatus

94. Switchgear and Terminals.—Switchgear and all terminals, cable-ends, cable-joints and connections or apparatus shall be totally enclosed, and constructed and installed so that—

(i) all parts shall be of mechanical strength sufficient to resist rough usage ;

(ii) all conductors and contact areas shall be of ample current-carrying capacity, and all joints in conductors shall be properly soldered or otherwise efficiently made ;

(iii) the lodgment of any matter likely to diminish the insulation or affect the working of any switchgear shall be prevented ;

(iv) all live parts shall be so protected or enclosed as to prevent persons accidentally coming into contact with them and danger from arcs, short circuits, fire, water, gas or oil ,

(v) where there may be risk of igniting gas, coal-dust, oil or other inflammable material, all parts shall be so protected as to prevent open sparking ,

(vi) every switch or circuit-breaker shall be capable of opening the circuit it controls, without danger, on any short-circuit with which it may have to deal.

95 Cutting off Supply.—(1) Properly constructed switchgear for cutting off the supply of energy to the mine or oil-field shall be provided at the surface of the mine or oil-field at a point approved by an Electric Inspector, or, in the case of the Burma oil-fields, by the Warden of the oil-fields , and during the time any cable is live a person authorized to operate the said switchgear shall be available within easy reach thereof

(2) Efficient means, suitably placed, shall be provided for cutting off all pressure from every part of a system, when necessary to prevent danger.

(3) Such efficient means shall be provided for cutting off all pressure automatically from the part or parts of the system affected in the event of a fault as may, in the opinion of an Electric Inspector, be necessary to prevent danger

(4) Every motor shall be controlled by switchgear for starting and stopping, so arranged as to cut off all pressure from the motor and from all apparatus in connection therewith, and so placed as to be easily worked by the person appointed to work the motor

(5) If a concentric system is used, no switch, fuse, or circuit-breaker shall be placed in the outer conductor, or in any conductor connected thereto, except that, if required, a reversing switch may be inserted in the outer conductor at the place where the energy is being used

Provided that subject to the connection of the outer conductor with the earthing system being maintained, switches, fuses or circuit-breakers may be used to break the connection with the generators or transformers supplying the energy.

Rule 93 (2). The Court would decide what is or is not suitable, on the evidence “ Danger ” is defined

Rule 94 (v) “ Open sparking ” is defined above

Rule 95 (2) (3) “ Danger ” is defined above. The means employed and their placing depend on circumstances, and the Court decides if they are efficient and suitable Cf rule 40-B, a later interpolation (1933)

96. Cables in Mines.—All cables in mines, other than flexible cables for portable apparatus, shall comply with the following requirements :—

(a) They shall be covered with insulating material (except that the outer conductor of a concentric system may be bare). They shall be efficiently protected from mechanical damage and supported at sufficiently frequent intervals and in such a manner as adequately to prevent danger or damage to the cables.

(b) (i) Except as provided in clause (c) or, with the consent in writing of an Electric Inspector and subject to the provisions of clause (f), and to such further conditions as the Electric Inspector may impose, no cables other than concentric cables, or two-core cables or multicore cables protected by a metallic covering, or single-core cables which contain all the conductors of the circuit, shall be used where the pressure exceeds low pressure continuous current or 125 volts alternating current.

(ii) The lead sheath of lead-sheathed cables and the iron or steel armouring of armoured cables respectively shall be of a thickness of not less than that recommended from time to time by the British Engineering Standards Association.*

(c) Where the medium-pressure, direct-current system is used two single-core cables may be used for any circuit, if their metallic coverings are bonded together by earth conductors so placed that the distance between any two consecutive bonds is not greater than 100 feet measured along either cable.

(d) The metallic covering of every cable shall be (i) electrically continuous throughout; (ii) earthed, if it is required by sub-rule (1) of rule 92 to be earthed, by a connection to the earthing system of not less conductivity than the same length of the said metallic covering; (iii) efficiently protected against corrosion where necessary; (iv) of a conductivity at all parts and at all joints at least equal to 50 per cent. of the conductivity of the largest conductor enclosed by the said metallic covering; and (v) where there may be risk of igniting gas, coal-dust, or other inflammable material, so constructed as to prevent as far as is practicable the occurrence of open sparking as the result of any fault or leakage from live conductors :

Provided that where two single-core cables protected by metallic covering bonded together in accordance with clause (c) of this rule are used for a circuit, the conductivity of each of the said metallic coverings at all parts and at all joints shall be at least equal to 25 per cent. of the conductivity of the conductor enclosed thereby.

(e) Cables and conductors where joined up to motors, transformers, switch-gear, and other apparatus, shall be installed, so that (i) they are mechanically protected by securely attaching the metallic covering to the apparatus; and (ii) the insulating material at each cable end is efficiently sealed so as to prevent the diminution of its insulating properties. Where necessary to prevent abrasion or to secure gas-tightness there shall be properly constructed glands or bushes.

(f) Unarmoured cables or conductors used with the consent of an Electric Inspector as provided in sub-clause (1) of clause (b) shall be either conveyed in pipes or casings or suspended from efficient insulators with some non-conducting material which will not cut the covering and will prevent contact with any timbering or metal work. If separate uncased wires are used, they shall be kept at least one and a half inches apart and shall not be brought together except at lamps, switches and fittings.

* Now the British Standard Institution.
Rule 96 (d). "Open sparking" is defined above.

97. Flexible Cable.—(1) Flexible cables for portable apparatus shall be two-core or multicore and covered with insulating material which shall be efficiently protected from mechanical damage. If a flexible metallic covering be used either as the outer conductor of a concentric system or as a means of protection from mechanical damage the same shall not be used by itself to form an earth conductor for the portable apparatus, but it may be used for that purpose in conjunction with an earthing core or other earthing wire.

(2) Every flexible cable for portable apparatus shall be connected to the system and to the portable apparatus itself by a properly constructed connector.

(3) At every point where flexible cables are joined to main cables a switch capable of entirely cutting off the pressure from the flexible cables shall be provided.

(4) No lampholder shall be in metallic connection with the guard or other metal work of a portable lamp.

98. Supervision and Sundry Precautions.—(1) An electrician shall be appointed in writing by the owner, agent or manager of the mine or by the agents or the owner of one or more wells in an oil-field to supervise the apparatus. If necessary for the proper fulfilment of the duties detailed in this rule, one or more assistants to the electrician shall be appointed by the aforesaid authority.

(2) Every person appointed to work, supervise, examine, or adjust any apparatus shall be competent for the work that he is set to do. No person except the electrician, or a competent person acting under his supervision, shall undertake any work where, in order adequately to avoid danger, technical knowledge or experience is required.

(3) The electrician shall be responsible for the proper performance by himself or by an assistant appointed under sub-rule (1) of the following duties, namely:—

(i) the thorough examination of all apparatus (including the testing of earth conductors and metallic coverings for continuity) as often as may be necessary to prevent danger; and

(ii) the examination and testing of all new apparatus, and of all apparatus re-erected in the mine before it is put into service in a new position:

Provided that in the absence of the electrician for more than three days, the owner, agent or manager of the mine or the agent or owner of one or more oil-wells in an oil-field shall appoint in writing an efficient substitute.

(4) The electrician shall keep at the mine or oil-field a log-book made up of daily log-sheets kept in the forms set out, respectively for mines and oil-fields, in Annexure X to these rules. The said log-book shall be produced at any time on request to an Inspector of Mines or an Electric Inspector.

(5) Should there be a fault in any circuit, the part affected shall be made dead without delay, and shall remain so until the fault has been remedied.

(6) For the prevention of danger all apparatus shall be kept clear of obstruction and free from dust, dirt and moisture. Inflammable or explosive material shall not be stored in any room, compartment, or box containing apparatus, or in the vicinity of apparatus.

(7) Before any conductor or apparatus is handled adequate precautions shall be taken, by earthing or other suitable means, to discharge electrically such conductor or apparatus and any adjacent conductor or apparatus, if there is danger therefrom, and to prevent any conductor or apparatus from being accidentally or inadvertently electrically charged when persons are working thereon. While lamps are being changed the pressure shall be cut off.

Provided that this sub-rule shall not apply to the cleaning of commutators and slip rings working at low or medium pressures. •

Rule 97. See also rule 40 (4), which applies in mines as elsewhere.
Rule 97 (3). Gate end boxes are permissible.

(8) The person authorized to work an electrically driven coal-cutter or other portable machine shall not leave the machine while it is working, and shall, before leaving the place where such machine is working ensure that the pressure is cut off from the flexible trailing-cable which supplies such machine. Trailing-cables shall not be dragged along by the machine when working.

(9) Every flexible cable shall be examined periodically by the person authorized to work the machine, and if such cable is used with a portable machine he shall examine it at least once in each shift. If such cable is found to be damaged or defective, it shall forthwith be replaced by a spare cable in good and substantial repair. No damaged or defective cable shall be further used underground until it has been properly repaired.

99. Precautions where Gas Exists. (1) In any part of a mine or oil-field or in any working approaching such part, in which inflammable gas or vapour, although not normally present, is likely to occur in quantity sufficient to be indicative of danger, the following additional requirements shall be satisfied as regards all apparatus, including such apparatus as is working at low pressure :—

(a) All cables, apparatus, signalling wires and signalling instruments, shall be constructed, installed, protected, worked and maintained, so that in the normal working thereof there shall be no risk of open sparking.

(b) All motors shall be constructed, so that, when any part is live, all rubbing contacts (such as commutators and slip-rings) are so arranged or enclosed as to prevent open sparking.

(c) The pressure shall be switched off the apparatus forthwith if open sparking occurs, and during the whole time that examination or adjustment disclosing parts liable to open sparking is being made. The pressure shall not be switched on again until the apparatus has been examined by the electrician or one of his duly appointed assistants and the defect (if any) has been remedied or the adjustment made.

(d) Every electric lamp shall be enclosed in an air-tight fitting, and the lamp globe itself shall be hermetically sealed.

(e) A safety lamp shall be provided and kept continually burning near each motor when working, and, should the appearance of the flame of such safety lamp indicate the presence of inflammable gas, all pressure shall immediately be cut off from apparatus in the vicinity thereof, and the matter shall be reported forthwith to an official of the mine.

(2) If at any time in any place in such mine the percentage of inflammable gas in the general body of the air is found to exceed one and a quarter, the supply of energy shall at once be cut off from all cables and apparatus in that place and shall not be recontinued so long as the percentage of inflammable gas exceeds that amount.

100. Shot-firing and Signalling in Mines.—(1) Where shot-firing is being carried on in any mine—

(a) Temporary precautions shall be taken to protect conductors and apparatus from injury.

(b) Current from lighting or power circuits shall not be used for firing shots.

(c) Shot-firing cables shall be covered and protected as provided by rule 97 for flexible cables. Adequate precautions shall be taken to prevent them from touching other cables and apparatus.

(2) Where electrical signalling is used in any mine—

(a) Adequate precautions shall be taken to prevent signal and telephone wires from touching cables and other apparatus.

Rule 99. "Danger" and "Open sparking" are defined above.

Rule 100 (1). Separate cables must be used for shot-firing; it is not prohibited. The use of the word "energy" is avoided, so this rule can be enforced though the rate is below 250 watts.

(b) The pressure used in any one circuit shall not exceed 15 volts.

(c) Contact-makers shall be so constructed as to prevent the accidental closing of the circuit

101. **Haulage in Mines.**—Haulage by electric locomotives on the overhead trolley-wire system, at pressures not exceeding medium, and haulage by storage battery locomotive, may be used in any mine or oil field, with the consent in writing first obtained of an Electric Inspector in all cases, and subject to such conditions affecting safety as may be made by him

102. **Exemptions.**—(1) The provisions of rules 85 to 100, both inclusive, shall not apply in any case in which exemption is obtained on such conditions as he may prescribe, from an Electric Inspector or, in the case of the Burma oil-fields, from the Warden of the oil-fields, on the ground either of emergency or special circumstances

(2) Notwithstanding anything in these rules, any electrical plant or apparatus installed, or in use, in any mine before the 23rd December, 1910, or in any oil-field before the coming into force of these rules, may be continued in use unless an Electric Inspector, after consulting the Chief Inspector of Mines, or, in the case of the Burma oil fields, the Warden of the oil-fields, as the case may be, shall otherwise direct, but subject to any conditions affecting safety that such Electric Inspector may impose

Relaxation of Rules.

103 **By Local Government.**—The Local Government may, by order in writing, direct that any of the provisions of rules 36 to 102, both inclusive, be relaxed in any particular case to such extent and subject to such conditions (if any) as it may think reasonable and proper in the circumstances

104 **By Electric Inspector.**—(1) An Electric Inspector may, by order in writing, direct that rules 35, 46, 53, 56 (1), 59, 60, 61, 62 (1) and 63, be relaxed in any particular case to such extent and subject to such conditions (if any) as he may think reasonable and proper in the circumstances

(2) Where the pressure on any system does not exceed 125 volts an Electric Inspector may, by order in writing, direct that any of the provisions of rules 36 to 40, both inclusive, and 47 to 99, both inclusive, be relaxed as regards such system to such extent and subject to such conditions as he may think fit

(3) Every relaxation so directed shall be reported forthwith to, and shall be subject to disallowance or revision by, the Local Government

CHAPTER VI.

Penalties and Miscellaneous

105 **Responsibility for Observance of Rules.**—Licensees and owners, and their agents and managers, shall be responsible for the observance of such of the rules in Chapter V of these rules as impose a duty on a person not therein specified.

106 **Penalty for Breaking Seal.**—Where, in contravention of rule 29, any seal referred to in that rule is broken, the consumer upon whose premises the seal was placed shall be punishable with fine which may extend to fifty rupees

Rule 101. An appeal lies from the Inspector's decision under section 36 (3) of the Act as amended in 1922

Rule 102 See also the two rules next following

Relaxation of rules Rules 103, 104 show that it is intended that common sense shall be employed rather than a too literal interpretation of a rigid rule See also rule 102

Rule 105 Many rules do specify the person on whom a duty is imposed including a consumer

Rule 106 Difficulty is always experienced in finding the person who actually breaks the seal but it will only be done for the benefit of the consumer and he is held responsible See section 44 of the Act

106-A. Penalty for Breach of Rule 40-A.—Where any electrical installation work of the nature specified in rule 40-A has been carried out otherwise than

(a) under the direct supervision of a person holding a certificate of competency issued by the Local Government under that rule; and

(b) in the absence of any applicable exemption under the proviso to sub-rule (1) of that rule, by an electrical contractor licensed by the Local Government in this behalf;

the consumer or owner, the contractor (if any) through whom the work was carried out, the person who carried out the work, and the person under whose immediate supervision it was carried out shall each be punishable with fine which may extend to three hundred rupees.

107. Penalty for Breach of Rules.—Whoever, being a licensee or owner, or the agent or manager of a licensee or owner, commits a breach of these rules, or being a person specified in rule 62 (3) (a) commits a breach of that rule, shall be punishable for every such breach with fine which may extend to three hundred rupees, and in the case of a continuing breach with a further fine which may extend to fifty rupees for every day after the first during which he is convicted of having persisted in the breach.

108. Mode of Entry.—All persons entering, in pursuance of the Act or these rules, any building which is used as a human dwelling or a place of worship shall, in making such entry, have due regard, so far as may be compatible with the exigencies of the purpose for which such entry is made, to the social and religious usages of the occupant of the building entered.

109. Applications of Rules.—Subject to the provisions of sub-section (2) of section 58, of the Act, these rules shall be binding on all persons, companies and undertakings to whom licenses have been granted or with whom agreements have been made by or with the sanction of Government for the supply or use of electricity before the commencement of the Act.

Annexure I.

(See Rule 2 (b).)

ANNEXURES
I and II to
Rules.

SPECIFICATION RELATING TO THE DEPOSITION OF SILVER.

The electrolyte shall consist of a solution of from 15 to 20 parts by weight of silver nitrate in 100 parts of distilled water. The solution must only be used once, and only for so long that not more than 30 per cent. of the silver in the solution is deposited.

The anode shall be of silver, and the kathode of platinum. The current density at the anode shall not exceed $1/5$ ampere per square centimetre and at the kathode $1/50$ ampere per square centimetre.

Not less than 100 cubic centimetres of electrolyte shall be used in a voltameter.

Care must be taken that no particles which may become mechanically detached from the anode shall reach the kathode.

Before weighing, any traces of solution adhering to the kathode must be removed and the kathode dried.

Rule 106-A. See note to rule 40-A, which is only in force in certain provinces. It has been amended considerably since the previous edition of this book was published, the clauses (a) and (b) being new.

Rule 107. Amended to provide a penalty for breach of rule 62, by Notification dated Delhi, 13th November, 1925.

Rule 108. This rule has been sadly abused by some consumers; hence the addition of sub-section 20 (3) in the 1922 revision of the Act

Rule 109. See chapter VIII of the Introduction.

Annexure II.*(See Rule 5 (I).)***SCALE OF FEES FOR COMPARISON WITH THE GOVERNMENT OF INDIA STANDARDS
REFERRED TO IN RULE 2.**

In tests requiring the expenditure of a considerable amount of power, a charge, to cover the actual cost of the energy used, may be made.

For an instrument intended to be used as a sub-standard and submitted for special examination and testing Rs. 80

If required to be kept under observation for a period longer than one month, for each additional month or part of a month Rs. 40

For determining a resistance of standard form to highest accuracy obtainable at one temperature Rs. 20

For determining the E.M.F. of a standard cell to highest accuracy obtainable at one temperature Rs. 15

Instruments referred to above to be delivered at and removed from the Government Electrical Laboratory, Bhowanipore, Calcutta, free of cost to Government.

ANNEXURE
III to Rules.

Annexure III.*(See Rule 12.)*

**MODEL FORM
OF DRAFT LICENSE UNDER THE INDIAN ELECTRICITY ACT, 1910.**

*[See section 3.]**Electric License, 19***DRAFT LICENSE.**

Signature of Applicant or
his Agent (if any).

Address of Applicants.

THE _____ ELECTRIC LICENSE, 19 .

ANNEXURE
III to Rules.

*License for the supply of energy granted by the
Government of _____
under the Indian Electricity Act, 1910.*

*License is hereby granted to ¹ _____

_____*

¹ The licensee may be any local authority, company or individual. In the case of a firm give names of individual partners.

[carrying on business in partnership under the name and style of]

to supply electrical energy in the area ² with the powers and upon the terms and conditions all specified below.

² See clause 4 of this Form

SHORT TITLE.

1. This license may be cited as "The _____
_____ ³ Electric License, 19 ."

³ Short title to agree with heading.

INTERPRETATION.

2. The several words, terms and expressions to which by the Indian Electricity Act, 1910, or by the Rules thereunder meanings are assigned shall have in this license the same respective meanings, provided that in this license—

- (1) the Act shall mean the Indian Electricity Act, 1910,
- (2) the expression "the licensees" shall mean and include the said "_____"

⁴ Individual names as in preamble in the case of a firm.

- and their [or his] permitted assigns ; and
- (3) the expression "deposited map" shall mean the plan of the area of supply hereinafter specified which has been deposited with Government in pursuance of the Rules under the Act, which plan is signed for the purpose of identification by the Secretary to the Government of _____ in the _____ Department and by the applicants under the name and style of _____

ANNEXURE
III to Rules.SECURITY.⁵

3 (1) The period within which, under clause 1 (b) of the Schedule to the Act, the licensee shall show that he is in a position fully and efficiently to discharge the duties and obligations imposed upon him shall be . . .

(2) The period within which under clause 1 (b) of the Schedule to the Act the licensees shall deposit or secure such sum as therein mentioned, and the sum so to be deposited or secured shall, unless otherwise ordered by the Government under that clause, be _____ and Rupees _____ respectively.

AREA OF SUPPLY.⁶

4. The area above referred to within which the supply of energy is authorized by this license (the area of supply under the Act) is the whole of the area bounded as follows :—

North.—By

East.—By

South.—By

West.—By

the boundaries whereof are delineated in the deposited map.

POWER TO LAY MAINS OUTSIDE AREA OF
SUPPLY.⁷

5. The licensee may lay down or place electric supply-lines for the conveyance and transmission of energy from a generating station situated or to be situated at _____ (outside the area of supply) to the boundary of the area of supply.

LIMITS WITHIN WHICH THE SUPPLY OF ENERGY
IS TO BE COMPULSORY.⁸

6. (1) The works to be executed to the satisfaction of the Government under clause IV of the Schedule to the Act are the following, namely :—⁹ _____

(2) If the licensee fails to comply with the provisions of sub-clause (1), the license may be revoked.¹⁰

⁵ See section 4 (1) (c) of the Act and clause I of the Schedule to the Act.

⁶ The area for which each local authority is constituted should be distinctly marked or coloured. See rule 9 (b).

⁷ This clause should be retained only where the licensee is to supply energy from a generating station outside the area of supply. Where power to cross an intervening area is sought under section 3 (1) of the Act, enter details here.

⁸ See section 3 (2) (d) of the Act.

⁹ It is open to the licensee to propose a "compulsory area" or to the Local Government to make provision for such an area. Ordinarily it will be sufficient to enter here the names of "compulsory streets" in which the licensee will lay distributing mains. If no compulsory works are specified in the license, the Local Government may subsequently direct what works are to be executed; see clause IV of Schedule.

¹⁰ See note to sub-clause (1) of this clause.

NATURE OF THE SUPPLY AND LIMITS OF PRICE
TO BE CHARGED FOR THE SUPPLY OF ENERGY.

ANNEXURE
III to Rules.

7. (1) The nature of the supply shall be _____ or such other as the Local Government may allow.

(2) The prices to be charged by the licensee for energy supplied by him shall not exceed the following maxima, namely :—

or, in the case of a method of charge approved by the Government in accordance with sub-sections (3) and (4) of section 23 of the Act, such maxima as the Government may fix on approving the method.

BREAKING UP OF STREETS, RAILWAYS AND
TRAMWAYS.¹¹

8. The licensee is specially authorized to open and break up the soil and pavement of the following streets or parts of streets which are not repairable by the Government, or by a local authority, and of the following railways and tramways or parts of railways and tramways, viz. :—

- (a) Streets.
- (b) Railways.¹²
- (c) Tramways.¹²

¹¹ This clause to be omitted if no such powers are required in the license. See section 12 (5) of the Act and proviso to the same. Powers can be obtained subsequently; see rule 21.

¹² In ordinary cases the level-crossings or points at which interference is proposed must be specified.

PURCHASE OF UNDERTAKING.

9. (1) The option of purchase given by sub-section (1) of section 7 of the Act shall first be exercisable on the expiration of 50 years ¹³ from the date of the notification of this license and on the expiration of every subsequent period of 20 years ¹³ (and the terms ¹⁴ of such purchase shall be _____). The percentage of the value to be determined in accordance with and for the purpose of sub-section (1) of section 7 of the Act of the lands, buildings, works, materials and plant of the licensee therein mentioned to be added under the second proviso of that sub-section to such value on account of compulsory purchase shall be _____ per cent.

¹³ The periods after which an option to purchase arises may be less than 50 and 20 years, respectively.

¹⁴ The terms must not differ from those laid down in the Act unless the powers of section 10 are invoked to modify or cancel them.

ANNEXURE
III to Rules.

(2) In accordance with clause (d) (ii) of sub-section (2) of section 3 of the Act, it is hereby declared that the generating station to be used in connection with the undertaking ^{shall}_{shall not} form part of the undertaking for the purpose of purchase under section 5 or section 7.¹⁵

ADDITIONS TO, VARIATIONS FROM, AND
EXCEPTIONS FROM THE SCHEDULE TO THE
ACT.¹⁶

10. (1) In pursuance of clause (f) of sub-section (2) of section 3 of the Act, it is hereby expressly declared that clause _____ of the Schedule to the Act shall for the purpose of incorporation in this license be ^{varied}_{added to} by the substitution of the following clause, namely :—¹⁷

(2) In pursuance of clause (f) of sub-section (2) of section 3 of the Act, it is hereby expressly declared that clause(s) _____ of the Schedule to the Act shall be excepted from incorporation in this license.

NOTE.—*In the preparation of a draft license the above model form may be varied, or added to, by the applicant so far as the Act and Rules admit.*

Rules Nos. 9 to 13 inclusive, as to applications for licenses should be consulted. In drawing up a draft license the attention of the applicant is more particularly directed to the following sections of the Act, viz., 3, 4, 7, 10, 11, 12, 21, 22, 23, 27, 51 and 57 ; the powers under section 51 can only be conferred after the grant of the license.

In the case of licenses for bulk supply, see clause IX of the Schedule and the proviso to section 3 (2), clause (f) of the Act ; also section 10 (b) of the Act.

¹⁵ The generating station or stations belonging to the licensee should ordinarily be included except where they form part of a traction undertaking previously authorised.

¹⁶ To be omitted if not required in any draft license.

¹⁷ The latter part of the clause may require modification according to the circumstances. Alternative forms are given in the opening notes on the Schedule, pp. 284, 285.

ANNEXURE
IV to Rules.

II.—CAPITAL ACCOUNT.

Dr.

For the year ending $\frac{31\text{st December, 19}}{31\text{st March, 19}}$.

Cr.

	Expendi- ture up to end of previous year.	Ex- pended during the year.	Total expendi- ture to . . .		Receipts up to end of previous year.	Receipts during the year.	Total receipts to . . .
1. To preliminary expenses (to be specified).				1. By amount raised by loans.			
2. To lands, including law charges incidental to acquisition.				2. By value of lands belonging to authority appropriated for electrical purposes.			
3. To value of lands appropriated for electrical purposes, as per contra.				3. By value of surplus lands sold.			
4. To buildings.				4. By other receipts (to be specified).			
5. To plant.							
6. To mains.							
7. To service connections.							
8. To transformers, etc.							
9. To meters and fees for certifying under the Act.							
10. To general stores.							
11. To transfer to Sinking Fund of value of lands sold, as per contra.							
12. To amount applied to the reduction of principal of borrowed money from value of (2) lands sold, as per contra.							
13. To special items (to be specified).							
Total Expenditure.							
To balance of Capital Account.							

III.—REVENUE ACCOUNT.

ANNEXURE
IV to Rules.

Dr.

For the year ending 31st December, 19
31st March, 19

Cr.

<p><i>A.—Generation.</i></p> <ol style="list-style-type: none"> 1. To fuel. 2. To oil, waste, water and engine-room stores. 3. To proportion of salaries of engineers, superintendents and officers. 4. To wages and gratuities. 5. To repairs and maintenance as follows :— Buildings. Plant. Special items (to be specified). 6. To other items (to be specified). 		<ol style="list-style-type: none"> 1. By balance from last account Less bad debts written off 	
<p><i>B.—Distribution.</i></p> <ol style="list-style-type: none"> 1. To proportion of salaries of engineers, superintendents and officers. 2. To wages and gratuities. 3. To repairs, maintenance, and renewals of mains. 4. To repairs, maintenance, and renewals of transformers, etc. 5. To repairs, maintenance, and renewals of meters, switches, cut-outs, and other apparatus on consumer's premises. 		<ol style="list-style-type: none"> 2. By sale of energy for lighting purposes. 3. By sale of energy for power purposes. 4. By sale of energy under special contracts. 5. By public lighting. 6. By rental of meters and other apparatus on consumer's premises. 7. By rents receivable. 8. By service connections. 9. By miscellaneous receipts from consumers. 10. By other items (to be specified). 	
<p><i>C.—Public Lamps.</i></p> <ol style="list-style-type: none"> 1. To attendance and repairs. 2. To renewals, etc. 			
<p><i>D.—Rents, Rates and Taxes.</i></p> <ol style="list-style-type: none"> 1. To rents payable. 2. To rates and taxes. 			
<p><i>E.—Management Expenses.</i></p> <ol style="list-style-type: none"> 1. To salaries, viz.— Engineer's Department. Clerical Department. 2. To general establishment charges. 			
<p><i>F.—Law Charges.</i></p> <p>To law expenses.</p>			
<p><i>G.—Special Charges.</i></p> <p>To special items (to be specified).</p> <p>Total expenditure.</p> <p>Amount carried to net revenue account.</p> <p>Balance carried to next account to provide for bad debts.</p>			
<p>TOTAL . . .</p>		<p>TOTAL . . .</p>	

Note by Commentator.—Items 8 and 9 on the Cr. side were added in 1922, as these important items have hitherto not been shown separately. *Per contra*, items 1 and 2 of sub-head G (special charges) have been introduced on the Dr. side. A case has occurred where the total receipts (gross) from service-lines were taken as profit, on which a commission was paid. It will be observed that there is no sub-head "Depreciation" as in the corresponding form of Companies' Accounts (Annexure V, sub-head III G). See paragraph 19 of the Introduction as to this.

ANNEXURE DR.
IV to Rules.

IV.—NET REVENUE ACCOUNT.

CR.

1. To interest on mortgage debt accrued due to date.		1. By balance from last account.	
2. To instalments of principal of money borrowed.		2. By balance brought from revenue account (No. III).	
To amount transferred to sinking fund where such fund is authorized.		3. By interest on money at deposit.	
4. To payments to reserve fund where such is authorized.			
5. To sum applied to local rate.			
6. To Income-tax paid.			
To balance carried forward.			
TOTAL		TOTAL	

DR.

V.—SINKING FUND ACCOUNT.

CR.

	Stock.			Stock.	
1. To amount paid for purchase of (nature of investment to be specified).			1. By balance brought from last account.		
2. To stock sold during period of account.			2. By amount brought from net revenue account.		
3. To amount of principal of borrowed money repaid.			3. By interest on investment.		
4. To amount of balance to next amount.			4. By value of lands transferred from account II.		
			5. By amount realized by sale of stock (nature of stock to be specified).		
			6. By stock purchased.		
TOTAL			TOTAL		

DR.

VI.—RESERVE FUND ACCOUNT.

CR. ANNEXURE
IV to Rules.

	Stock.			Stock.	
To amount paid for purchase of (nature of investment to be specified).			1. By balance brought from last account.		
2. To stock sold.			2. By amount transferred from net revenue account.		
3. To sum transferred to revenue account.			3. By stock purchased.		
4. To amount of balance to next account.			4. By amount realized by sale of stock (nature of stock to be specified).		
TOTAL			TOTAL		

DR.

VII.—GENERAL BALANCE SHEET.

CR.

<i>Liabilities.</i>		<i>Assets.</i>	
1. To capital account : Amount received as per account No. II.		1. By capital account : Amount expended for works as per account No. II.	
2. To sundry creditors.		2. By stores on hand.	
3. To net revenue account : Balance at credit thereof.		3. By sundry debtors for current supplied to end of the year.	
4. To sinking fund account.		4. By other debtors.	
5. To reserve fund account.		5. By securities as held (cost price).	
6. To other items (to be specified).		6. By other items (to be specified).	
		7. By cash with treasurer.	
		8. By cash in hand.	
TOTAL		TOTAL	

Note by Author.—As to the audit of Local Authorities' accounts, see note to clause II of the Schedule to the Act.

ANNEXURE
V to Rules

VIII.—STATEMENT OF ENERGY GENERATED, SOLD, ETC

Total energy generated in kilowatt hours	KILOWATT HOURS SOLD					Kilowatt hours used on works	Kilowatt hours not accounted for	Total kilowatt hours accounted for	Kilowatts connected for public lamps	Total consumers connected	* Total kilowatts connected	Plant installed, kilowatts	Maximum supply demanded in kilowatts
	Public lamps	* By special contract	Consumers by meter for lighting purposes	Consumers by meter for power purposes	Total								
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Note by Commentator.—* Columns 3 and 12. Where the undertaking supplies power to tramways, the units sold to the tramway should be treated as sold by special contract. In calculating the total kilowatts connected the kilowatts connected exclusive of the tramway should first be ascertained, then the kilowatts connected to the tramway system should be assumed to bear the same ratio to the units used on the tramway as the remaining kilowatts connected bear to their own assumption.

* Columns 12 and 13. These were added in 1922.

ANNEXURE
V to Rules.

[See section 11 of the Act, clauses II and III of the Schedule, and Rule 32 (3).]

* Enter designation
of Company.

For the year ending $\frac{31\text{st December, } 19}{31\text{st March, } 19}$.

[illegible]

Description of loan.	AMOUNTS BORROWED.				Remaining borrowing powers.	Total amount of borrowing powers.	
	At per cent.	At per cent.	At per cent.	Total.			

Total Share Capital Paid-up, see No. I	.
„ Loan „ Borrowed, see No. II	.
Total Capital received	.

ANNEXURE
V to Rules.

III.—CAPITAL ACCOUNT.

Dr.

For the year ending 31st December, 19
31st March, 19.

Cr.

	Expendi- ture up to end of previous year.	Ex- pended during the year.	Total expen- diture to . . .		Receipts up to end of previous year.	Received during the year.	Total receipts to . . .
1. To preliminary ex- penses (to be speci- fied).				By ordinary shares of.			
2. To lands, including law charges inci- dental to acquisi- tion.				Ditto.			
3. To buildings.				By preference shares of.			
4. To plant.				By Debenture stock.			
5. To mains.				By mortgages and bonds.			
6. To service connec- tions.				By amounts re- ceived in anti- cipation of calls.			
7. To transformers, etc.				By other receipts (to be specified)			
8. To meters, and fees for certifying under the Act.							
9. To general stores.							
10. To special items (to be specified).							
Total Expendi- ture.							
To balance of Capital Ac- count.							

IV.—REVENUE ACCOUNT.

ANNEXURE
V to Rules.

Dr.

For the year ending 31st December, 19
31st March, 19.

Cr.

<i>A.—Generation.</i>			1. By sale of energy for lighting purposes. 2. By sale of energy for power purposes. 3. By sale of energy under special contracts. 4. By public lighting. 5. By rental of meters and other apparatus on consumer's premises. 6. By rents receivable. 7. By transfer fees. 8. By service connections. 9. By miscellaneous receipts from consumers. 10. By other items (to be specified).		
1. To fuel. 2. To oil, waste, water and engine-room stores. 3. To proportion of salaries of engineers, superintendents and officers. 4. To wages and gratuities. 5. To repairs and maintenance as follows :— Buildings. Plant. Special items (to be specified).					
<i>B.—Distribution.</i>					
1. To proportion of salaries of engineers, superintendents and officers. 2. To wages and gratuities. 3. To repairs, maintenance and renewals of mains. 4. To repairs, maintenance and renewals of transformers, etc. 5. To repairs, maintenance and renewals of meters, switches, cut-outs and other apparatus on consumer's premises.					
<i>C.—Public Lamps.</i>					
1. To attendance and repairs. 2. To renewals, etc.					
<i>D.—Rents, Rates and Taxes.</i>					
1. To rents payable. 2. To rates and taxes.					
(Continued on next page.) Carried forward			Carried forward		

Notes.—Items 8 and 9 on the Cr. side were added in 1922, as these important items have hitherto not been shown separately. *Per contra*, items 1 and 2, of sub-head H (special charges) have been introduced on the Dr. side. See note under Head III, Revenue Account, in Annexure IV to the Rules (Local Authorities' Accounts).

ANNEXURE DR.
V to Rules.

IV.—REVENUE ACCOUNT—*contd.*

CR.

Brought forward

Brought forward

E.—

1. To Directors' remuneration.
2. To Management.
3. To general establishment charges.
4. To Auditors of Company.
5. To Auditor appointed under the provisions of the Act.

F.—Law Charges.

To law expenses.

G.—Depreciation.

1. To depreciation in respect of leasehold works.
2. To depreciation in respect of buildings.
3. To depreciation on plant.
4. To depreciation on mains.
5. To depreciation on transformers, etc.
6. To depreciation on meters.
7. To depreciation on general stores.
8. To depreciation in respect of any other items (to be specified).

H.—Special Charges.

To other items (to be specified).

Total expenditure.
Balance carried to net revenue.

Notes.—The Depreciation Account G has been sub-divided further than in the earlier rules. See paragraph 19 of the Introduction as to rules.

DR.

V.—NET REVENUE ACCOUNT.

CR. ANNEXURE
V to Rules.

1. To interest on debentures accrued due to date.		1. By balance from last account.	
2. To interest on mortgages and bonds accrued due to date.		Less dividend paid. By amount carried to Reserve Fund.	
3. To interest on temporary loans accrued due to date.			
4. To dividend on preference stocks.			
5. To Income-tax paid.			
6. To balance applicable to dividend on ordinary stock or shares.		2. By balance brought from revenue account (No. IV).	
		3. By interest on money at deposit.	
TOTAL .		TOTAL .	

DR.

VI.—RESERVE FUND ACCOUNT.

CR.

1. Amount paid out (items to be specified).		1. By balance brought from last account.	
2. Amount of balance to next account.		2. By amount brought from net revenue account.	
		3. By interest on amount invested.	
		(Description of investments to be specified.)	
TOTAL .		TOTAL .	

ANNEXURE DR.
V to Rules.

VII.—DEPRECIATION FUND ACCOUNT.

CR.

To balance.		1. By balance from last account.	
		2. By interest on investments.	
		3. By amount brought from revenue account (See No. IV—G).	
		(Description of investments to be specified.)	
TOTAL .		TOTAL .	

DR.

VIII.—GENERAL BALANCE SHEET.

CR.

<i>Liabilities.</i>		<i>Assets.</i>	
1. To capital account: amount received as per Account No. III.		1. By capital account: amount expended for works as per Account No. III.	
2. To sundry creditors due on construction of plant and machinery; fuel, stores, etc.		2. By stores on hand.	
3. To sundry creditors on open accounts.		3. By sundry debtors.	
4. To net revenue account: balance at credit thereof.		4. By preliminary expenses awaiting adjustment.	
5. To reserve fund account: balance at credit thereof.		5. By securities as held (cost price).	
6. To depreciation fund account.		6. By special items (to be specified).	
7. To special items (to be specified).		7. By cash at bankers.	
		8. By cash on hand.	
TOTAL .		TOTAL .	

Note by Author.—In pursuance of clause II (d) of the Schedule to the Act, "Any report made by the auditor, or such portion thereof as the Local Government may direct, shall be appended to the annual statement of accounts of the licensee and shall thenceforth form part thereof."

IX.—STATEMENT OF ENERGY GENERATED, SOLD, ETC.

Total energy generated in Kilowatt-hours.	KILOWATT-HOURS SOLD.					Kilowatt-hours used on works.	Kilowatt-hours not accounted for.	Total Kilowatt-hours accounted for.	Kilowatts connected for public lamps.	Total consumers connected.	* Total Kilowatts connected.	Plant installed Kilowatts.	Maximum supply demanded in Kilowatts.
	Public lamps.	* By special contract.	Consumers by meter for lighting purposes.	Consumers by meter for power purposes.	Total.								
1	2	3	4	5	6	7	8	9	10	11	12	13	14
.													

NOTE.—* Columns 3 and 12. Where the undertaking supplies power to tramways the units sold to the tramway should be treated as sold by "special contract." In calculating the "total kilowatts connected," the kilowatts connected exclusive of the tramway should first be ascertained; then the kilowatts connected to the tramway system should be assumed to bear the same ratio to the units used on the tramway as the remaining kilowatts connected bear to their consumption.

ANNEXURE
V to Rules.

ANNEXURE
VI to Rules.

Annexure VI.

FORM OF REQUISITION UNDER CLAUSE V (4) OF THE SCHEDULE TO THE ACT.

To_

.(name of licensee).

In the case of six or more owners
or occupiers.

We, the undersigned, being owners or occupiers of
premises situated in or upon_____street
within the “ area of supply ” specified in the_____
License, 19 , do

In the case of the Local Govern-
ment or a local authority.

* The local authority's name will
have to be inserted.

The Government of_____ (The * _____
of _____) being charged with the public lighting
of _____street, within the area of
supply specified in the _____
license, 19 , do

hereby require(s) you, in pursuance of clause V of the Schedule to the Indian Elec-
tricity Act, 1910, to provide, within six months
of the date of this requisition, distributing mains
throughout the said street †

† or such part of the street as may
be specified.

DATED AT_

The day of

19 .

Annexure VII.

ANNEXURE
VII to Rules.FORM OF REQUISITION UNDER CLAUSE VI (5) OF THE SCHEDULE
TO THE ACT.

To _

_(name of licensee).

[I] hereby require you, in accordance with clause VI of the Schedule to the Indian Electricity Act, 1910, within one month, or within such longer period as the Electric Inspector may allow, from the date of this requisition, to supply electrical energy for the premises_____owned (occupied) by me, situate within the "area of supply" specified in the_____licence, 19 , for the following :—

Here specify the
_____apparatus it is de-
sired to supply and
the "maximum de-
mand."

The wiring work will be carried out by _

DATED AT _

The day of 19 .

Signature.

NOTE.—Under clause VI (1), 1st proviso, sub-head (b) of the Schedule to the Indian Electricity Act, 1910, "the licensee shall not be bound to comply with any such requisition unless and until the person making it, if required by the licensee so to do, pays to the licensee the cost of so much of any service-line as may be laid down or placed for the purposes of the supply upon the property in respect of which the requisition is made, and of so much of any service-line as it may be necessary for the said purposes to lay down or place beyond one hundred feet from the licensee's distributing main, although not on that property" .

ANNEXURE
VIII to Rules.

Annexure VIII.

Form of Order under Rule 4, sub-rule (4).

To_

_(name of licensee or owner).

Whereas it appears that Rule_____has not been complied

with by you_

* *Period.* you are hereby called upon to comply with the said rule
within *_____.

DATED AT_____} _____*Signature.*
The *day of* 19 . } *Electric Inspector.*

Section 36 (3) of the Act enacts :

"In the absence of express provision to the contrary in this Act or any rule thereunder, an appeal shall lie from the decision of an Electric Inspector to the Governor-General in Council or the Local Government, as the case may be ; or, if the Governor-General in Council or the Local Government, as the case may be, by general or special order, so directs, to an Advisory Board." See rules 4 (4) proviso and 4-A, the latter putting a limit of 3 months for appeals.

Annexure IX.

ANNEXURE
IX to Rules.

FORM OF ANNUAL RETURN FOR OIL-FIELDS.

(See Rule 86.)

This Form must be correctly filled up by the Owner, Agent, or Manager, and
sent to the _____ not later than the first day of February, 19 .

PART A.

Year ending _____ 19 .

Name of Oil-Field _____

Situation of Oil-Field { District _____
Province _____

Postal Address of Oil-Field _____

Name and Address of Owner _____

Name of Manager _____

Name of Under-Manager _____

FORM OF ANNUAL RETURN FOR OIL-FIELDS.

PART B.

Type and Horse-power of Electrical Apparatus.

1.—System of Supply (whether continuous current or alternating current).

Voltage of Supply

Periodicity (if alternating current)

Source of Supply

2.—Voltage at which current is used for

Lighting

Power

ANNEXURE
IX to Rules.

Annexure IX.—*contd.*

3.—Particulars of Motors, etc., in use on the field :—

(a) *On wells.*

No. or other identifying mark of well.	Drilling or pumping.	H.P. of motor.	No. of lamps and type.	Other electrical appliances.

(b) *Not on wells.*

H.P. of motor.	Purpose for which used.	Identifying mark on map.

(c) *Other electrical appliances, not included in (a) and (b), in use on the field.*

Appliances.	Size in K.W.	Purpose for which used.	Identifying mark on map.

Annexure X.

ANNEXURE
X to Rules.

LOG-SHEET FOR MINES AND OIL-FIELDS.*

[See Rule 98 (4).]

DAILY LOG-SHEET FOR _____ 19 .

1. Name of electrician in charge _____

2. Report as to—

(a) Condition of the insulation of the system :—

(b) Specific defects of insulation (particulars of each failure of apparatus should be given) :—

(c) Accidents or dangerous occurrences (including any cases of electric shock, and any cases of open sparking in apparatus in use in places where rule 99 applies) :—

(d) Examinations of apparatus as provided by rule 98 :—

(i) Routine examinations as required by rule 98 (1) (i) :

(ii) Special examinations as required by rule 98 (3) (ii) :

3. Remarks :—

Signed _____ Electrician.

Examined by _____ Manager.

State which
apparatus has
been exam-
ined or tested,
and result.

NOTE.—This log-sheet should be filled in as completely as possible. If, for instance, there are no defects of insulation to report, the word "none" should be written in the vacant space.

* The forms are identical for mines and oil-fields and are therefore not printed twice over as in official copies of the rules.

APPENDIX II.

MODEL FORM OF LICENSEE'S "CONDITIONS OF SUPPLY."

[See section 21, sub-sections (2) and (3) of the Act.]

Note—This Appendix is a Model Form and no more; it was originally issued for general guidance by the Author, when Electrical Adviser to the Government of India, in view of the many conditions made by licensees which were *ultra vires*. *The model has no legal force.* A somewhat different Model Form, based on this, has been issued by the Government of Madras and "declared as a model form under section 21 of the Act" in G.O. 254 W. of Feb. 26th, 1923.

CONTENTS.

PART I.

Model conditions of supply 334

PART II.

Rates at which supply will be charged 337

PART III.

Scale of miscellaneous charges 338

PART IV.

Model form of registration for supply 339

PART V.

Model form of Agreement 339

PART I.

Conditions of Supply.

Application for supply. 1. Application for a supply of electrical energy must be made to the licensees upon the form of requisition attached hereto (Part IV) of which copies are obtainable at the (Licensee's) Head Office. The requisition must be signed by the owner or occupier of the premises. Assistance and information in filling up the form will be given to any applicant at the office.

Notice for fixing service and meter, etc. 2. Upon receipt of the application, notice will be sent to the consumer, or to the wiring contractor acting on the consumer's behalf, for his representative to meet the licensee's Engineer to agree upon the position of the supply service, main cut-out and meters. The licensee will in no case fix his meters and main cut-outs, nor allow the same to remain, in any position which entails entry by his employes into purdah or religious quarters.*

Notice before connection. 3. The intending consumer must give one month's notice before the supply is required.†

* See rule 108

† This is the period prescribed in clause VI (1) of the Schedule to the Act. In the case of long services, where the public streets require to be opened up, at least six weeks' notice is necessary, in view of the Statutory Notice required by the Municipal Authorities. In other cases it may be possible to make the connection within less than the statutory period, and this will be done where possible. Special arrangements for connecting temporary illuminations will be made when possible but as long notice as is practicable should be given.

4. The licensee will lay the service-lines between the distributing main and the consumer's premises. The size of these lines and of the meter boards and fuses will be determined by the licensee's Engineer. Fixing position of services, meter boards and fuses.
5. The licensee provides his own meter boards, main cut-outs, etc., and it must be clearly understood that these remain his property and must on no account be handled or removed * by any one who is not in the employ of the licensee. The seals which are fixed on the meters and the licensee's apparatus must on no account be broken.† Consumer not to interfere with supply mains or apparatus.
6. Fixing of service-lines, cable and fittings connected therewith (^{including}~~not including~~ house wiring, etc.), on consumer's premises can be undertaken by the licensee at an authorized scale of charges, which are given in Part III of these "Conditions." Fixing services and apparatus on consumer's premises.
7. For the protection of consumers, and the public generally, it is necessary that the wiring on consumer's premises shall conform with the Indian Electricity Rules, 1922, and the Rules of the Fire Insurance Company in which the building is insured. The licensee is unable to accept responsibility with regard to the maintenance or testing of wiring on consumer's premises. The adoption of the Regulations for the Electrical Equipment of Buildings (formerly Wiring Rules) of the Institution of Electrical Engineers ‡ or the Specification issued by the Local Government for electrical work in Government buildings in the Province is strongly recommended, especially as regards the method of carrying out metal sheathed wiring. Wiring on consumer's premises.
8. The consumer must in all cases provide quick break main switches and a main fuse on each pole, which must be erected within three feet of the licensee's meter board, or in such other position as shall be approved by his Engineer. Position and construction of main switches and fuses.
9. (1) After completion of the wiring, 48 hours' notice must be sent to the licensee (upon a printed test form obtainable from him) that the installation has been completed and tested by the Contractors, and that the same is complete and ready for inspection and test by the licensee, by whom only can the connection be made. Notice of the licensee's intention to inspect and test the installation will be sent to the Contractor, who must send a representative at the time fixed to give any information that may be necessary concerning the installation. Procedure for testing installation and fee.
- (2) No connection will be made until the consumer's installation has been inspected and tested by the licensee and found satisfactory.§ No charge will be made for the first test made by the licensee, but subsequent tests, due to faults disclosed at the initial test, will be charged for in accordance with Part III of these "Conditions," para. 8.
- (3) All fittings, whether incandescent lamps, arc lamps, fans, motors, heating or cooking apparatus, must be connected to the conductors and all fuses must be in place and all switches switched on before the tests are carried out.
- (4) A pressure of 500 volts || will be applied between the whole installation and "earth," and the insulation resistance after one minute's electrification shall not be less than the total number of ohms arrived at by dividing the number 10,000,000 in the dry season, and 5,000,000 in the rainy season, by the number expressing the maximum electric current in amperes required.

* See section 44 Act.

† See rules 29 and 104 in Appendix I.

The latest edition is the 9th, revised May, 1927; 10th in preparation, to be published 1933.

§ See rules 23 to 25, 40, 41, 43, 44, 49 to 56 and 61 in Appendix I; also the second and third provisions to clause VI (1) of the Schedule to the Act.

|| This applies to low pressure installations.

(5) The test between the poles should give at least half the result of that to "earth."

Extensions
and altera-
tions.

10. Should the consumer, at any time after the supply of energy has been commenced, increase the number, or size, of lights, fans or motors, etc., on his premises, or in any way alter the position of his wiring therein, notice (in writing) must be sent to the licensee, whose representative will call and inspect the alteration and, if necessary, change the meters and fuses and alter the service-line. Failure to give such notice may derange the supply system and render the supply liable to be summarily discontinued.* During such times as alterations, additions or repairs are being executed the supply to the circuit which is being altered, added to or repaired must be entirely disconnected and it must remain disconnected until the alterations, additions or repairs have been tested and passed by the licensee.

Failure of
supply.

11. Should the licensee's main fuse melt, notice must be sent to the Head Office or nearest dépôt; it may only be replaced by one of his authorized assistants. No repairs need be done to consumer's wiring by the licensee's assistants.

Access to
premises and
apparatus.

12. The licensee's servants are entitled, at all reasonable times, to enter upon premises to which the energy is supplied for the purpose of inspecting meters and for other purposes connected with apparatus belonging to the licensee.†

Agreement.
and security.

13. The licensee may require any consumer to enter into a formal contract,‡ and to deposit security § for the payment for energy supplied, but in the event of no formal contract having been entered into between the licensee and the consumer, the latter, after once the supply of electricity has commenced, shall be bound by the terms and conditions of supply herein set forth.

Method of
charging for
current.

14. The price and method of charging for current supplied shall be such as may from time to time be fixed by the licensee, in accordance with the provisions of the Act || and of his license, or such as may be made the subject of special agreement between the consumer and the licensee.

Notice of
removal.

15. Consumers about to vacate or sub-let their premises should give the licensee a full seven days' notice in writing, together with an opportunity for disconnecting the premises; otherwise the licensee cannot guarantee that the meter readings will be taken on the required date. Failing such notice the consumer will be held responsible for energy consumed on the premises, in respect of which the licensee holds his agreement for the supply of energy, until such date as notice of vacation in writing has been received at his Head Office.

Pressure and
amount of
supply.

16. Supply for domestic purposes will be made at the consumer's terminals at the declared pressure of . . . volts; in particular cases, however, where large supplies are required (exceeding . . . amperes) special conditions ** will be imposed, as provided in the following "Conditions."

17. (1) Motors and apparatus requiring more than . . . amperes will only be supplied across the outer conductors of a 3-wire system, or 3-phase on a 3-phase system.

* See second proviso, sub-head (c), and third proviso to clause VI (1) of the Schedule to the Act. One month's notice may be required, though less will usually suffice.

† See section 20 of the Act and rules 23 to 25, 29, 104, and 107.

‡ See clause VI (1) of the Schedule to the Act, first proviso, sub-head (a). A Model Form of Agreement is given in Part V of these "Conditions."

§ See clause VI (1) of the Schedule to the Act, first Proviso, sub-head (a), and second proviso, sub-head (a).

|| See sections 22, 23, 24 and 26 of the Act, and clauses X and XI of the Schedule to the Act.

** See proviso to section 21 (1) of the Act, and second proviso to clause VI (1) of the Schedule to the Act, sub-head (b).

(2) In order that the supply to other consumers shall not be interfered with * lift Lift motors. and other motors with a fluctuating load, having a rated amperage exceeding . . . amperes, will be supplied across the outers of a 3-wire system and 3-phase on a 3 phase supply, and must therefore be suitably wound. Attention is also necessary to the conditions imposed by the Government of India under the Rules of the Indian Electricity Act, 1921, regarding medium and high pressure supply.

18. In order that the supply to other consumers shall not be interfered with † Three phase 3 phase motors should in every case be provided with suitable overload protection supply. and should preferably be arranged to start light on a loose pulley, and the following points should be observed —

(a) Up to brake horse-power, motors may be of the squirrel cage type but the starting device shall be designed to keep the starting current within the limit of twice the full load current

Above the said brake horse power motors should be provided with wound rotors and slip rings, with the starting device designed to keep the starting current within the limit of $1\frac{1}{2}$ times the full load current

(b) Where wiring for 3 phase motors is in conduit, all phase wires shall be bunched in a single metallic conduit which must be efficiently earthed throughout and connected to the frame of the motor ‡ It is recommended that the earthing wire shall not be smaller than the equivalent of No 3 S.W.G.

In no case will single leads run separately in metal conduits, or an earth connection to a gas main be allowed

(c) The licensee reserves the right to refuse to supply any motor or installation where the demand shows an average power factor of less than 80 per cent, subject to the right of the consumer to an appeal by the consumer to the Electric Inspector §

19. Nothing in these conditions shall abridge or prejudice the rights of the Saving clause licensee under his license and under the Acts of the Government of India or the Local Government, or any rule thereunder. ^{as to licensee's rights}

MODEL FORM OF LICENSEE'S CONDITIONS

PART II.

Rates at which supply will be charged

(To be filled in by the Licensee, for each undertaking)

MODEL FORM OF LICENSEE'S CONDITIONS

PART III

Scale of miscellaneous charges, for Service Connections, Testing, etc.

NOTE — The charges for the service line connecting an installation are payable before the work is carried out, Nos (9) and (10) are payable before reconnection, No (11) is payable at the time when the work is done

Service Connections

(1) For connecting up an installation a licensee shall be entitled to charge the consumer the actual cost of materials and labour involved *plus* 15 per cent, subject

* See proviso to section 21 (1) of the Act

‡ See rules 40 41 44 53 in Appendix I

† See proviso to section 21 (1) of the Act

§ See section 36 (2) of the Act

to the provisions of clause VI (I) of the Schedule to the Act, first proviso, sub-head (a).*

(2) Extensions or additions to service-lines, to meet increased maximum demand,† will be charged for on the same basis.

Other Miscellaneous Charges.

	Rs.
(3) For hire of meter, where it is the property of the licensee, per meter, per annum	[5]
(4) For changing a meter and/or a meter board to a larger size, where necessitated by extension †	[5]
(5) For changing meter board for one of smaller size	[5]
(6) For changing meter only, at the request of the consumer	[5]
(7) For testing a hired meter, if it should be proved to be correct within the limits laid down by the Rules ‡	[5]
(8) Testing installations §—The first test and inspection will be carried out free of charge, but should any further test or inspection be necessitated by faults in the installations, or by non-compliance with conditions of supply, per extra test required (payable in advance)	[10]
(9) Disconnecting a consumer, Rs. [3]; or, in the case of an underground service, actual cost of materials and labour <i>plus</i> 15 per cent.	
(10) Reconnecting a consumer, Rs. [3]; or, in the case of an underground service, actual cost of materials and labour <i>plus</i> 15 per cent.	
(11) Replacing <i>consumer's</i> fuses	[1]
Replacing licensee's fuses free; vide Schedule to the Act, cl. VI (2).	

MODEL FORM OF LICENSEE'S CONDITIONS.

PART IV.

Form of Requisition for Supply.

(See Annexure VII to the Indian Electricity Rules, 1911.)

To _____ (name of licensee).

I hereby require you, in accordance with clause VI || of the Schedule to the Indian Electricity Act, 1910, within one month from the date of this requisition, to

* Under this clause the licensee provides the service-line free of charge for a distance of 100 feet from his distributing mains so long as it is not on the consumer's property, i.e., up to the boundary of that property, if within 100 feet from the main.

† Authorized by the third proviso to clause VI (I) of the Schedule to the Act.

‡ See section 20 (I) and 26 (4) of the Act. Either the consumer or the licensee may refer a dispute as to the accuracy of a meter or other indicator, etc., to the Electric Inspector for settlement, see section 26 (6) and (7) of the Act. The usual charge of the Electric Inspector for such tests is Rs. 10. The limit of inaccuracy allowed is laid down in Indian Electricity Rule 2—see footnote to same.

§ Such tests are made to ensure compliance with Indian Electricity Rules Nos. 23, 40, 41, 43, 44, 49 to 56, etc., in the first instance, see Appendix C hereto. In the case of installations already connected see the second proviso to clause VI (I) of the Schedule to the Act, sub-heads (b), (c) and (d) (Appendix B hereto) and Indian Electricity Rule No. 24.

NOTES.—In the model form of Licensee's conditions, as published, there are extracts from the Act, the Schedule and the Rules in this place. The references to these are now referable to the full text preceding. The extracts should be given in the pamphlet published by a licensee, for the information of consumers.

|| Where the requisition is signed on behalf of Government this should be stated here

supply electrical energy for the premises _____

_____ owned (occupied) by _____ * being within the
"area of supply" † specified in the _____ license 19 _____, for the
following —

Incandescent lamps (Wattage 20, 30, 40, 60, etc.
(Number.

Arc lamps number and wattage

Fans number and wattage

Heaters . number and wattage

Cooking apparatus number and wattage

Motors (Number
(H P of each.

The wiring work will be carried out by _____ (Contractor)

Dated at

The _____ day of _____ 19 _____.

Signature

MODEL FORM OF LICENSEES' CONDITIONS

PART V.

Model Form of Agreement

AGREEMENT made _____ day of _____ One
thousand nine hundred and _____ Between

(hereinafter referred to as the licensees) of the one part,

and

(hereinafter referred to as the consumer of the other part), WHEREBY it is agreed
as follows —

1. The licensees shall furnish to the consumer and the consumer shall accept at the premises mentioned in the Schedule hereto on and from the date on which the said premises shall be connected with the licensees' distributing main a constant supply of electrical energy for the purposes and up to the maximum specified and under the conditions laid down in the said Schedule. but the licensees will not be responsible for any interruption or diminution of the supply due to occurrences beyond the control of the licensees

2 The consumer shall pay to the licensees on demand the cost of so much of any service-line as may be laid down or placed for the purposes of the supply upon the said premises, and of so much of any service line as it may be necessary for the said purposes to lay down or place beyond 100 feet from the licensees' distributing main, although not on the said premises

* The Local Government has power to authorize supply outside the "area of supply."

† The particulars should show under which of the tariffs the supply will be required, and also the ultimate application of the current to be supplied. The applicant should specify distinctly whether it is to be for "lighting only," "power purposes only," "lighting and fans only," or "both power and lighting and fans," "industrial power," etc.

NOTE —In acknowledging receipt of a requisition the licensee should state the cost of the service connection so far as it is payable by the consumer.

3. The supply shall be registered by a meter or meters in or upon the said premises to be provided fixed and kept in proper order by the licensees. The consumer shall pay to the licensees for each meter on hire, the monthly rent of The consumer shall be at liberty at any time to purchase such meter or meters from the licensees, and from and after the purchase thereof the consumer shall be responsible for keeping the same in proper order. A monthly charge will be made for special instruments supplied on hire for measuring alternating current.

4. The consumer shall pay to the licensees for all electrical energy so supplied at the rates, and in accordance with the terms, given in the licensees' Current Official Scale of Rates and the signing of this Agreement is held to imply concurrence in the terms of the said Scale of Rates :

Provided nevertheless that if at the end of twelve calendar months from the date of commencement of supply, and at the end of each subsequent period of twelve calendar months during which this Agreement is in force, the registered consumption of energy shall fall short of the value of Rs. . . . or such guaranteed consumption as is specified in the schedule hereto, the consumer shall pay to the licensees the difference between the registered consumption and the guaranteed minimum consumption at the rate per Board of Trade Unit applicable :

Provided also, that in the event of no minimum consumption being guaranteed then should the value of the energy consumed be less than the amount (if any) specified in the license, the consumer shall pay to the licensees a sum equivalent to the minimum sum so specified.

5. A consumer under this Agreement is required to state under which of the rates, set out in the licensees' Official Book of Rates, he desires to be charged.

6. Readings of the meter or meters will be taken by the licensees once in each month, or at such other intervals or times as they shall think expedient and the licensees' meter readers shall have access to the consumer's premises at all reasonable times for the purpose of taking such readings. The readings of each meter shall be entered by the licensees in a book to be attached to such meter and to be open for the inspection of the consumer. Payment for energy supplied shall be made by the consumer according to the readings of each meter forthwith upon such readings being entered in the said book.

7. If the consumer shall at any time consider that any meter (not being his own property) is not in proper order for correctly registering the value of the supply, the licensees will on receipt of a notice in that behalf from the consumer take the necessary steps to have the same tested, at the option of the consumer, either by the licensees or by the Electric Inspector to Government. If upon such test it shall be found that the meter registers the supply not more than . . . per cent. fast or . . . per cent. slow from one-tenth full load to full load, the consumer shall repay to the licensee on demand all costs of and incidental to such testing. If upon such test it shall be found that the meter registers the supply in excess of . . . per cent. fast at one-tenth full load to full load, all costs of and incidental to such testing shall be borne by the licensees who shall also refund to the consumer any amount paid by him in respect of the quantity registered in excess during the previous three months computed on the basis of the total error or difference from absolute accuracy disclosed by such test. If upon such test it shall be found that the meter registers the supply in excess of . . . per cent. slow at one-tenth full load to full load, all costs of and incidental to such testing shall be borne by the licensees, but the consumer shall pay to the licensees on demand for the quantity short registered by such meter during the previous three months computed on the basis of the error or difference disclosed by such test. For so long as the meter (being the property of the licensees) shall not be "correct" the consumer shall not be liable for the hire thereof.

8. The consumer shall on being thereunto required by the licensees deposit with them the sum of Rs. . . . as security for the purpose next hereinafter mentioned, and shall on the like requisition from time to time renew or replenish such security in the event of the same becoming exhausted or insufficient. The licensees shall be at liberty at any time and from time to time to appropriate and apply any security so deposited as aforesaid in or towards payment or satisfaction of all or any moneys which shall become due or owing by the consumer to the licensees in respect of the supply of energy or otherwise under this Agreement but the provisions in this clause contained shall not prejudice any other remedy to which the licensees may be entitled for the recovery of such moneys. The licensees when so required by the consumer shall pay to the consumer interest at the rate of 5 per cent. per annum on every sum of Rs. 10 or over comprised in such security for every complete period of twelve calendar months during which the same shall remain on deposit with the licensees, and the said premises shall be connected with the licensees' distributing main.

9. The consumer shall not be at liberty save with the consent of the licensees to determine this Agreement before the expiration of . . . (*period*) . . . from the date of commencement of the supply of electrical energy hereunder. The consumer may determine this Agreement at any time after the said period on giving to the licensees not less than one calendar month's notice in writing in that behalf and and upon the expiration of the period of such notice this Agreement shall cease and determine without prejudice to any right which may then have accrued to the licensees hereunder :

Provided always that the consumer may at any time with the previous consent of the licensees transfer this Agreement to any other person and upon subscription by such transferee of these presents this Agreement shall become binding on the transferee and the licensees, and take effect in all respects as if the transferee had originally been party hereto in place of the consumer, who shall thenceforth be discharged from all liability under or in respect hereof.

10. This agreement shall be read and construed as subject in all respects to the provisions of the . . . Electric License, 19 . . . , and to the provisions of the Indian Electricity Act, 1910, and of any modification or re-enactment thereof for the time being in force and the rules for the time being in force thereunder so far as the same respectively may be applicable. The supply of electrical energy under this Agreement is subject to the following among other provisions of law, namely :—

The licensees shall be entitled to discontinue such supply—

(a) if the owner or occupier of the property to which the supply is made has not already given security, or if any security given by him has become invalid or insufficient, and such owner or occupier fails to furnish security or to make up the original security to a sufficient amount, as the case may be, within seven days after the service upon him of notice from the licensee requiring him so to do, or

(b) if the owner or occupier of the property to which the supply is made adopts any appliance, or uses the energy supplied to him by the licensees for any purposes, or deals with it in any manner, so as unduly or improperly to interfere with the efficient supply of energy to any other person by the licensees, or

(c) if the electric wires, fittings, works and apparatus in such property are not in good order and condition, and are consequently likely to affect injuriously the use of energy by the licensees, or by other persons, or

(d) if the owner or occupier makes any alterations of, or additions to, any electric wires, fittings, works and apparatus within such property as aforesaid, and does not notify the same to the licensees before the same are connected to the source of supply, with a view to their being examined and tested.

Where the owner or occupier has required licensees to supply him at a specified maximum rate, he shall not be entitled to alter that maximum, except after one month's notice in writing to the licensees, and the licensees may recover from the owner or occupier any expenses incurred by them by reason of such alteration in respect of the service-lines by which energy is supplied to the property beyond one hundred feet from the licensees' distributing main, or in respect of any fittings or apparatus of the licensees upon that property.

Where any difference or dispute arises as to the amount of energy to be taken or guaranteed, or as to the cost of any service-line or as to the sufficiency of the security offered by any owner or occupier, or as to the improper use of energy, or as to any alleged defect in any wires, fittings, works or apparatus, the matter shall be referred to an Electric Inspector and decided by him.

Rule 23. (1) A licensee shall not connect the wires and fittings on a consumer's premises with his works unless he is reasonably satisfied that the connection will not, at the time of making the connection, cause a leakage from those wires and fittings exceeding one five-thousandth part of the maximum supply demanded on the consumer's premises.

(2) Where a licensee declines to make a connection, in accordance with sub-rule (1) he shall serve upon the consumer a notice stating the reasons for so declining.

Rule 24. (1) If at any time a licensee has reason to believe that a leakage likely injuriously to affect the use of energy by the licensee or by other persons exists in the premises of a consumer then the licensee may give the consumer reasonable notice in writing, that he desires to inspect and test such wires and fittings belonging to the consumer as form part of the circuit.

(2) If the consumer does not give all reasonable facilities for inspection and testing, or if a leakage from the consumer's wires exceeding one five-thousandth part of the maximum supply demanded on the premises is discovered, the licensee may forthwith discontinue the supply of energy to the premises in question, giving immediate notice of the discontinuance to the consumer, and need not recommence the supply until the cause of the leakage has been removed.

Rule 25. (1) Where a consumer is dissatisfied with the action of a licensee under rule 23 or rule 24 in refusing or discontinuing, or in not recommencing, the supply of energy to his premises, the wires and fittings of such consumer shall, on his application and on the payment of the prescribed fee, be tested for the existence of leakage by an Electric Inspector or other officer appointed to assist an Electric Inspector.

(2) If the Electric Inspector or other officer as aforesaid on testing finds that the leakage from the consumer's wires is less than one five-thousandth part of the maximum supply demanded on the premises, the Electric Inspector shall notify the licensee and the licensee shall within 24 hours commence or continue the supply of energy.

APPENDIX III.

PERMISSIBLE LIMITS OF ERROR OF ELECTRIC SUPPLY METERS.

(See Indian Electricity Rule N. 2 (u) and notes thereon)

British Standard Specification No. 37 of 1919.

Under this Specification, which was in force up to 1933, under the rule,

The following limits of error at the standard or marked temperature, pressure, frequency and at unity power factor are laid down, viz —

LOAD	PERMISSIBLE ERROR	
	Meters without external shunts or transformers	Meters with external shunts or transformers
	Per cent from true reading	
Full load to one-fifth full load inclusive .	+ or - 2	+ or - 2.5
From one-fifth to one-tenth full load	+ or - 2.5	+ or - 2.5
At one-twentieth full load	+ or - 4.5	+ or - 5.0

Note (i) When current or potential transformers or shunts are employed the accuracy specified shall be obtained with combined calibration.

Note (ii) If auxiliary apparatus is to be connected to the transformer or shunt the meter should be calibrated with all such apparatus connected.

British Standard Specification No. 37 of 1930.

This is practically identical with that of 1929, now in force under the rule.

Clause 37 of the above runs as follows :—

37 The error of the meter at the standard or marked temperature, voltage and frequency shall not exceed the following values.

A.C. Meters, Commercial Grade.

Conditions of Test		Limits of Error.	
Current expressed as a percentage of the marked current	Power Factor	Meters without external shunts or transformers.	Meters with external shunts or transformers
125 % to 20 %	1.0 to 0.5	plus or minus 2 %	plus or minus 2.5 %
20 % to 10 %	0.5	" " " 2 %	" " " 2.5 %
At 10 %	0.5	" " " 2.5 %	" " " 2.5 %
At 5 %	1.0	" " " 2.5 %	" " " 2.5 %

D.C. Meters, Commercial Grade.

Size of Meter.	Conditions of Test.	Limits of Error.
Below 10 amps.	125 % to 10 % of marked current.	plus or minus 2.5 %
10 amps and over.	{ 125 % to 10 % of marked current at 5 % of marked current.	" " " 2 % " " " 2.5 %

The definition of "percentage error" is given in an appendix to the 1930 *B. S. Specification* as follows :—

The error of the meter is the difference between the amount registered and the true kilowatt-hours. Thus a meter which registers 95 per cent. of the true kilowatt-hours is said to have an error of minus 5 per cent. The percentage error of a meter can be determined as follows :—

(a) *From registration.*

$$\text{Per cent. error} = \frac{R - kWh}{kWh} \times 100$$

where R = registration of meter in kWh and kWh = true kilowatt-hours passed through the meter.

(b) *From Revolution of Rotor.*

$$\text{Per cent. error} = \frac{T - t}{t} \times 100,$$

where *t* = actual time (or time as observed) required for a given number of revolutions and *T* = true time or time a correct meter would take for a corresponding number of revolutions.

The Specifications, both old and new, contain a large amount of further detail relating to tests and performance under various working conditions, and should be studied in detail before any tests are made.

ADDENDUM.

Rules under amendment.—The following alterations and additions to the Indian Electricity Rules, having been published for criticism by Notification of the Government of India (as noted under each), have been inserted in the text on the assumption that they will finally be passed in some such form; but up to the date of going to Press they have *not* been passed. The formal ones are not open to amendment; but for the technical ones the official code should be consulted and the necessary corrections made.

Rule 2 (r) and (y) and rule 87.—The correct references to the Indian Mines Act, 1923, have been substituted for the existing ones under the repealed Mines Act of 1901; see Table of Enactments, p. xvii. (Notification No. S. 601, dated 2 Feb. 1933.)

Rule 2 (u).—The date 1929 is in process of being substituted for 1919; but 1930 may go in finally. See Appendix III., which shows the latest B.S.S. of 1930. (*Ibid.*)

Rule 2 (uu).—This new definition had not been finally passed. (*Ibid.*)

Rule 13 (3).—The portion in *italico* will doubtless replace the wording of the earlier rule. (*Ibid.*)

Rule 16.—The existing marginal subject heading is "Grant of license." (*Ibid.*)

Rule 17.—In line 2, the word "approved" is now "proposed." (*Ibid.*)

Rule 40-B.—This is a proposed new rule, likely to be modified before it is passed. It appears impracticable both to comply with it and to enforce it. (*Ibid.*)

Rule 62 (2).—The rule in force begins "No such conductor," in reference to sub-rule (1); objections have been raised to the words it is proposed to substitute (shown in *italico*), as the prohibition was intended for bare wires only. (Notification No. S. 601 dated 29 Nov., 1932.)

Msprints.—Some misprints, mostly of minor import, in the official reprint of the rules have been corrected, including one of substance in rule 96 (e), viz. "cable end," which was given as "cable and." (Notification S. 609, dated 2 May, 1933, and correction slip of ten items.)

Miscellaneous.

Page 213; sec. 12 (2) proviso. It has been held in the Punjab Courts, on appeal (23 Nov. 1928, re Gujranwala Electric Supply Co.), that the District Magistrate, though competent to authorize fixing or altering a "support, stay or strut," cannot authorize placing a supply line in or over private land. His authorization of the erection of a post was held legal, but not that of a line on it. This judgment bears out the clear intention of the proviso.

Pages 209, 210, sec. 9 (2). As to assignment of a license and transfer of an undertaking from a partnership dissolved, see the Indian Contract Act, sec. 253 (7) and (9) and sec. 293. Each of the partners must first transfer his rights and obligations to the purchasers, and then apply for permission to assign the license. (Case, not taken to the Courts, at Hoshiapur, Punjab 1928.)

Pages 288 and 290. It has been held (in the Punjab) that the contract contemplated by Cl. V. (1) (a), unlike that under Cl. VI. (1) (a), need *not* be in a "form approved by the Local Government."

INDEX.

Antique figures refer to text of Act and Schedule.

See separate List of sections of Act, pages 187-189

" " " " rules and forms in Appendices, pages 309 313

A

ABOVE GROUND WORKS—(See "*Aerial lines*")

ABSTRACTING ENERGY—(See "*Stealing*").

ACCESS—

to meters, **239.**

to premises, 45, 46, 82, 106, 130, 149, **230, 239**, 319, 347

to private land, q is

to works and lines, 68, 130, 149, **227**, **230**, 319

ACCIDENTAL CHARGE and earthing, 64, 68, 80, 81, 84, 121, 177, 273, 329, 334

ACCIDENTS—

due to cable breakdown, 272, 293

.. .. carelessness or failure to observe rules, 56, 65 *et seq.*, 80, 81, 84, 193, 251, 273

“ “ non observance of rules, 18, 81

Failure to supply due to, 167, 273, **290**, 298.

Inevitable, 272, **290**, 293

Risk of, 48, 80, 81

to be reported, and inquiry may be held, 120, 150, **256**.

(See also "Electric shock.")

ACCOUNTS—

Audit of, 109, 286.

Auditor, appointment of, **256**.

Licensee to keep, and sell, 109, **212, 326.**

Prescribed model forms of, for local authority, 326, 353.

“ “ “ “ for company, 326, 359.

Rules regarding, **261**, 326, 353, 359

to be kept separately, 109, 163, **287**.

“ “ sold, 110, 212.

ACQUIRE—(See “Compulsory purchase,” “License,” “Land acquisition,” “Sale”)

“Act,” definition of an, includes an omission, 144

ACTS AND STATUTES, *see* Table of same, xv

ADDENDUM, 382

ADDITIONS or alterations to installation, 82, **291**, 328

to price on compulsory sale, 41, 206, 207.

to Schedule—(See "Schedule")

ADDRESS of notices, orders, etc , 147, **281.**

ADMINISTRATION of Electricity Act, 124, 148 *et seq*, **259 et seq**

ADVERTISEMENT—

of application for license, 30, 195, 322.

„ „ to break up private streets, etc , 46, **213**, 323

Antique figures refer to text of Act and Schedule.

ADVISORY BOARDS—(*See Introduction, para. 25*).

- Action of, as to maximum rates, 91, 132.
- Appeal to, 131, **260**.
- Appointment of, 125, 132, **259**.
- Arbitration by, 87, 124.
- Commercial representation on, 132.
- Consideration of rules by, 132 *et seq.*, **264**.
- Constitution of, 132, **259**.
- Fees and travelling expenses of, **259**.
- may hear appeal from Electric Inspector's decision, 131, **260**.
- to advise before maximum rates are altered, 91, 133, **302**.

AERIAL LINES—(*See Introduction, para. 14*).

- Definition of, **191**.
- Advantages of, 67.
- and railways, **249**.
- Construction of, 63, **227**, 333 *et seq.*
- Distance from buildings of, 334, 335.
- Earthing supports of, *see* "Connection with earth of metal."
- Guarding, 335 *et seq.*
- Height of, 334, 335.
- Local Government to approve construction of, 67, 127, **226**, 227.
- may be laid without notice in emergency, 47, **218**, **226**.
- Rules as to, 64, 68, 333 *et seq.*
- Temporary, 47, **218**.
- Transmission of power by (*see Introduction, para. 12*), 49, **227**, **277 et seq.**
- Trees, structures or objects interfering with, 53, 68, 149, **227**, 228, **249**.
- Unused, removal of, 337.

AFFECTING INJURIOUSLY—(*See "Injuriously affecting"*).

AGENT of Mine defined, 318.

- „ responsible for observance of rules, 346.

AGREEMENT—

- between licensee and consumer, 75, **244**, **290**, 293, **298**, **299**.
- Charges by, 90 *et seq.*, **233**, **288**, **290**, **299**, **301**, **303**.
- for hire of meter, 103, **239**.
- in breach of section 28 is void, **246**.
- made before commencement of Act, 186, **283**.
- to sell, transfer, lease, exchange or purchase undertaking, 108, **209**.
- Working undertaking by—instead of purchasing, **207**.

ALTERATION—

- of declared pressure or frequency, 71, 164, 324.
- of index of meter, 103, 140, **274**.
- of maximum charges, 91, 133, **302**.
- of pipes and wires, 47, **219**.
- „ „ „ under Telegraph Act, 52.
- of price or method of charge, 91, **301**.
- of Schedule—(*See "Schedule"*).
- of sewers, drains and tunnels, 44, **213**, **222**, **224**, 244.
- of supports, stays and struts on private property, **213**.
- of system of supply, 71, 90.
- or additions to installation, by consumer, 82, **291**, 328.

AMENDMENTS—

- of Indian Electricity Act, 13, 15, 124 and *passim*.
- of Indian Telegraph Act, 50.
- „ „ Tramways Act, 170, 171, 172.
- of Land Acquisition Act, 57, 60, 61, **283**.
- of licenses, 33, **200**, 323.
- of works of licensee, notice to be given, **217**.

Antique figures refer to text of Act and Schedule.

AMOUNT of energy used, ascertaining, **230, 234, 238-243, 299, 301-303.**

AMPERE, defined, 315, 347.

ANNUAL RETURN for Oil-fields, 369.

APPARATUS, defined, 316.

of licensee may be removed, **230.**
not liable to attachment, 107, **238.**

APPEAL from decision of Electric Inspector, 131, **260, 319.**
to Advisory Board, 131, **260.**
Limit of time for, 319.

APPLICATION—

for licenses (*see Introduction, para. 8*), 30, **195-199, 320, 321.**
of the Indian Electricity Act, 1910, **190.**
" " " " Rules, 1922, 315.
Revocation of license on—of licensee, 32, 33, **200, 209.**
to break up private streets, 45, **214, 323.**
to magistrate, for recovery of sums, 143, **281.**
(*See also "License," "Requisition."*)

APPOINTMENT of "Advisory Board," *q.v.*

APPROVAL—

of draft license, 30, 322.
of method of charge, **302.**
of methods of constructing aerial lines. (*See "Aerial lines."*)
of plan of works, **216, 219.**
of position of testing stations, **304.**
or consent of Local Government, where required, 128, 323.

ARBITRATION—(*See Introduction, para. 23*).

Award of arbitrator, 123, 124.
by Advisory Board, 87, 124.
Disputes to be settled by, 122, **202, 206, 217, 218, 220, 223, 225, 229, 232, 233, 254, 280, 288, 299, 303.**
Expenses of, 123.
how carried out, 122, **280.**
Indian Arbitration Act, 1899 (*see also Table of Enactments, xv*), 122.

As to licenses—

Regarding purchase of undertaking, **202, 206.**

As to works—

Altering pipes and wires, **217, 220, 221.**
Determining compensation, **217, 218, 221, 229, 254.**
Disputes between licensee and telegraph authority, 126, **254.**
New works, **217, 223.**

As to supply—

Amount of energy to be taken, **288, 299.**
Bulk supply, **299.**
Interfering with use of energy, **232.**
Public lamps, **303.**
Security, **288, 292.**
Sum to be paid where there is separate supply, **233.**

ARBITRATORS, nomination of, 122, 123, **280.**

ARCHES as "buildings," 215.

AREA OF SUPPLY—

Definition of, 72, **191.**
Competition in (no monopoly), 29, **196, 246, 247.**

Antique figures refer to text of Act and Schedule.

AREA OF SUPPLY—*Contd.*

- Competition outside, **244**.
- Generating station outside, 29, **195**.
- Intervening area between two, 29, **195**, 321.
- Lines may be laid outside, **195**, **244**.
- Military works in, 14, 31, 124, **195**, 198.
- Plan of, **305**.
- Works or supply outside, 29, 72, 111, **195**, **244**, **271**.

ARREARS of charges and other sums due, **236**.

ARSENAL, supply of energy in, 14, 31, 124, **195**, 198.

ARTICLES of Association, 321.

ARTIFICIAL MEANS—

- for abstracting energy or interfering with meters, etc., 139, 140, **265 et seq.**, **273**, 275.

“**ASSESSED ROOMS**” as basis of tariff, 94.

ASSIGNMENT of powers, **209**.

ASSOCIATION—

- included in definition of “person,” 144.
- of licensee with other undertakings, **209**.

ATTACHMENT, electric supply lines, etc., exempted from, 107, **238**, 282.

AUDIT, **AUDITORS**—(See “*Accounts*”).

AUTHORIZED person, defined as to rules, 316. See also “*Competent*.”
 „ distributor. See “*Distributing Licensee*.”

AUTOMATIC disconnection of dangerous circuits, 84, 177.

AWARD of arbitrator, 123, 124.

B

BALANCE SHEET, forms of, 357, 364.

BARE defined, 316.

BATTERY CHARGING and system of supply, 71, 72.

BEARER wires to be earthed. See “*Connection with Earth of Metal*.”

BENGAL TRAMWAYS ACT, 1883—(See *Introduction*, para. 34, and *Table of Enactments*, xv).

BOARD OF TRADE—(Now the “*Electricity Commissioners*,” q.v.).

- Orders and licenses of, 9, 10.
- Rules, etc., of, 11.
- unit (kilowatt-hour), 90.

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY, 3.

BONDING rails for traction, 181.

BOUNDARY of area of supply, **195**.

BRACKETS, etc., attaching to premises, 45, **213**.

BREACH of rules, **262**, 346, 347.
 of license, **200**, **276**.

BREAKDOWN—

- Failure of supply due to, 272, 273, **290**.
- Licensee may erect temporary aerial line in case of, 47, **218**.
- Reserve plant for use in case of, 73, 82, **233**.

Antique figures refer to text of Act and Schedule.

BREAKING UP—(*See Introduction, para. 11*).

By Licensee—

bridges, 214.

Compensation for damage due to. (*See "Compensation."*)

private land, streets, etc., 45, 46, 148, **213, 214, 244, 323.**

public streets, 45, 46, 148, **213, 216, 224.**

railways, tramways, etc., 45, **213, 214 et seq., 224, 244, 253, 323.**

sewers, drains, tunnels, etc., 44, **213, 224, 244.**

streets outside area of supply, **244, 271.**

Works to be guarded, lighted, etc., during, 48, **224.**

By "Operator"—

for alteration of pipes and wires, **219, 222.**

By Non-licensee, 112, 113, 114, 116, 117, 120, **244, 247, 248.**

BRIDGES, roadway of included in street, **192, 194, 214.**
and causeways, 194.

BRITISH ENGINEERING STANDARDS ASSOCIATION—(*See "British Standards Institution."*)

BRITISH INDIA, definition of, and application of Act to, **144, 190.**

BRITISH INDIAN ELECTRIC COMMITTEE, 15, 131.

BRITISH STANDARDS INSTITUTION (*formerly B.E.S.A.*), 243, 343.

BRITISH standard meters, 243, 317, Appendix III, 381.

BRITISH Post Office guard wires, 336.

BUILDINGS—

Distance of aerial lines from, 334, 335.

Stays, etc., fixed on, 45, 149, **213.**

Wiring of, 323 *et seq.*

BULK SUPPLY, 13, 85 *et seq.*, 114, **197, 199, 209, 210, 235, 241, 298 et seq.**
Proviso as to, **209.**

BUSINESS OF SUPPLY, engaging in, 116, **246.**

BYELAWS—(*See "Conditions of supply of Licensees"*).

C

CABLES—(*See "Electric supply-lines," "Submarine cables," "Wires"*).
Defective, an inevitable accident, 272, 293.

CALCUTTA ELECTRIC LIGHTING ACT, 1895—

(*See Introduction, para. 2, and Table of Enactments, xv.*)

Licenses under. (*See Introduction, para. 4.*)

Passing and repeal of, 9, 185.

(**CALCUTTA ELECTRIC SUPPLY CORPORATION**, 40, 208.

CAMP, supply of energy in, 14, 31, 124, **195, 198.**

CANALS—

Protection of, 121, **253.**

Works in, under, over, along or across, **216.**

CANTONMENT, supply of energy in, 14, 31, 124, **195, 198.**

CAPE TOWN TRAMWAY CASE, 180, 182, 255.

CAPITAL accounts, 354, 359.

„ Interest on, 108, 175.

„ invested in Indian Undertakings (Table), 7.

Antique figures refer to text of Act and Schedule.

CASES CITED, List of, xvii, xviii.

CAUSEWAYS, 194

CAUVEREY HYDRO-ELECTRIC INSTALLATION, 32.

CENTRAL ELECTRICITY BOARD (British), 10.

CERTIFICATE of competency, 79, 328

CERTIFYING METERS—(See “Meters”).

CHANGE—(See “Alteration”)

CHAPTER headings, note on, 17.

CHARGE (electrical), accidental, 68, 81, 84, 121, 177, 273, 329.

CHARGES, CHARGING—(See *Introduction*, para. 18 : see also “Meters,” “Price,” “Undue Preference”).

Alteration of, 72, 91, 133, **301, 302.**

Approval of, **302.**

by agreement or contract, 90, **234, 299.**

Default in paying, 82, 105, **236.**

Deposit of, in disputes, 105, **236.**

Differential, 93, **234.**

Disputes as to minimum, **233, 292, 299.**

Flat rates, 90 *et seq.*, 235, 301

for supply to consumers by agreement, 90, **233, 234, 290, 299, 301, 303.**

“ ” “ ” public lamps, 77, 90, 102, **303.**

Maximum, may be altered, 91, 133, **302.**

Methods and systems of, 89 *et seq.*, **234, 301, 302, 303.**

Minimum rates of, 92, **303.**

Profit sharing methods of, 88.

Rebates of, 88, 89, **234.**

Sliding scale of, 87, 88.

Two part, 94

Undue preference in, 95, **234.**

“CAUTION” notice to be affixed near generator, 332.

CINEMATOGRAH ACTS—(See *Table of Enactments*, xi)

Rules under, 120, footnotes.

CIRCUIT, defined, 316

CIRCUIT BREAKERS, high-speed, 67.

Automatic disconnection by, 177.

COAL costs in India, 110.

CODE of Criminal procedure, 137, 142

COLOURS of phase wires, etc., 332

COMBINED UNDERTAKINGS, 34 *et seq.*, 163, 210.

COMMENCEMENT of license, 323.

Point of, of supply, 73, 74, 103, 160, 193, **229, 325**

COMMERCIAL representation on Advisory Board, 132, 133

COMMISSIONER OF POLICE, in Presidency towns and Rangoon—

may authorize licensee to examine consumer's wires, etc., 106, 149, **230.**

may order support, stay or strut to be placed on, or removed from, private property, 45, 149, **213, 215**

may order tree or other obstruction to be removed, 54, 68, 149, **227.**

Persons using energy under Part III to give notice to, 150, **249.**

COMMITTEES—(See “Report”).

COMPANY—(See also “Licensee”)

Act relating to, 108

Form of accounts for, 359.

Antique figures refer to text of Act and Schedule.**COMPANY—Contd.**

- included in definition of "person," 144.
- may acquire land, 58, **283**.
- Position of, with regard to licensee. (*See Introduction, para. 32.*)
- Service of notices on, **281**.

COMPENSATION—(See Introduction, para. 15).

- Disputes to be settled by Arbitration, **217, 218, 221, 229, 254**.
- in case of licensee's works, 69, **213, 217, 218, 221, 223, 227, 228**.
- List of cases providing for, 69.
- may be given to owner of tree cut, 53, 68, **227**.
- Penalties may be incurred as well as, 141, **276**.
- under Indian Telegraph Act, 51 *et seq.*
- under Land Acquisition Act, 58, 60.
- where support or stay, etc., is placed on private property, 51 *et seq.*, **213**.
- (*See also "Arbitration."*)

COMPETENT—

- "Authorized Person" to be, 316, 328, 344.
- "Electrician" to be, 317, 344.
- Licensed contractor to be, 79, 328.

COMPETITION between suppliers, 29, 196, 198, 244, 246, 247.**COMPULSORY PURCHASE—(See Introduction, para. 10).**

- Addition to price for, 41, 42, **206**.
- Arbitration as to, 42, **202, 206**.
- Conditions in case of, 39 *et seq.*, **202, 203, 205, 206, 209**.
- Debts and mortgages in relation to, 38, 42, **203, 207**.
- Notice of intended, **207**.
- of generating station, in a combined undertaking, 34 *et seq.*, **196, 202, 206, 210**.
- of land. (*See "Land acquisition."*)
- of tramways, 41, 172 *et seq.*
- of undertaking by local authority, 33, 34, 39 *et seq.*, 87, 152, **202, 206**.
- " " " " Local Government, 33, 39, 42, 87, **203, 207**.
- " " " " any other person, 33, **202**.
- " " " " of local authority, after revocation, 39, **205**.
- Omission of provisions for, 43, 87, **211**.
- Power to vary terms of, 40, 87, **211**.
- where generating station supplies two areas, 34 *et seq.*, **202, 206, 207**.
- Working by agreement in place of, **207**.

COMPULSORY WORKS AND SUPPLY, 46 *et seq.*, 198, 287 *et seq.***CONCENTRIC SYSTEM defined, 316.****CONDITIONS—**

- in case of compulsory purchase, 39-44, **201 *et seq.***
- may be imposed in license, 29, **196**.
- " " " " when "Telegraph" powers are given, **278 *et seq.***
- " " " " when there is no compulsory purchase, 87, **211**.
- Not complying with, of license, 32, **200, 276**.
- of supply outside area, **243**.
- " " " " to consumers, **288, 290 *et seq.*, 323 *et seq.***
- " " " " of licensee, model form, 78, **231, 372**.
- " " " " without license, 111 *et seq.*, 120, 153, **246 *et seq.***
- where rules are relaxed, 346.

CONDUCTOR, defined, 316.

"Weatherproof," 336.

CONDUIT SYSTEM of traction, 338.**CONFERENCES of Electric Inspectors, 99, 115, 235, 265.**

Antique figures refer to text of Act and Schedule.

CONNECTING METER, illegally, 103, 140, **239, 273.**

CONNECTION WITH EARTH OF SYSTEM, 68, 71, 84, 121, 127, 157 *et seq.*, 176 *et seq.*, **257, 330, 331, 337 *et seq.***

“ “ “ defined, 317.

“ “ “ of metal work, compulsory, 64, 68, 71, 80, 81, 84, 121, 156 *et seq.*, 177, 329, 334.

CONSENT—

of licensee unreasonably withheld, **244.**

of Local Government, where required, 127, 128.

of local authority for license not a condition precedent, 152.

Revocation of license by, 32, 33, **200, 209.**

to break up streets, railways and tramways. (*See “ Breaking up.”*)

CONSTANT PRESSURE AND FREQUENCY—

Penalty for not maintaining, 84, 164, 347.

Rules regarding, 324, 325.

CONSTANT SUPPLY to be given, 84, 164, 167, **290, 297, 324, 325.**

CONSTITUTION of Advisory Boards, 132, **259.**

CONSTRUCTION AND GUARDING OF AERIAL LINES—(*See “ Aerial lines.”*).

CONSUMER(S)—(*See Introduction, para. 33.*)

Definition of, **191, 193.**

List of, to be kept, 320.

Responsibility of, for faulty works. (*See “ Responsibility.”*)

Rules applying to, 18, 81, 119, 324 *et seq.* (*See also “ Responsibility.”*)

As to use of energy by—

Leakage on premises of, 76, 81, 156 *et seq.*, 167, **291, 323, 324.**

may not improperly use energy, 76-78, 82, **231, 291.**

to keep installation in proper order, 82, **291, 323, 324.**

to notify alterations and additions, 82, **291, 328.**

Use of energy by, not to be interfered with, 77, **231.**

As to supply of energy and charges to—

Agreement with licensee, 75-77, **244, 290, 293, 299.**

Ascertaining energy used by, 102-106, **230, 239.**

Charges to, by agreement. (*See “ Charges.”*)

Conditions of supply to, 78, **231, 233, 288 *et seq.***

Contract to be entered into with, 75-77, **290, 293, 299.**

Cutting off supply from. (*See “ Cutting off supply.”*)

Default in paying charges by, 82, 105, **236.**

Maximum charge to, 91, 133, **302.**

Maximum power of, 82, **291, 299.**

Minimum charge to, 92, **303.**

may demand supply, 73, 163, **233.**

may not interfere with supply, 78, 82, **231, 291.**

may not receive undue preference, 95, **234.**

may not use energy for which higher rate is chargeable, **234.**

Non-payment of charges by, 82, 105, **236.**

Point where supply to, begins, 73, 74, 103, 160, 193, **229, 325.**

Refusing supply to, 80, 165, 166, **233, 290, 324.**

regarding meter disputes, 104, **236, 239.**

Requisition for laying mains, 76, 82, **288, 366.**

As to supply of energy and charges to—

Requisition for supply by, 75, 163, 164, **290, 297, 298, 367.**

Security may be demanded from, 75, **288, 290-292.**

Antique figures refer to text of Act and Schedule.

CONSUMER—*Contd.*

As to a supply and works for—

- Electric supply-lines laid for particular, 164, **297**.
- Licensee's apparatus on premises of, 107, **230, 231, 238, 239 et seq.**
- Requisition for laying mains, 76, 82, **288, 366**.
- Responsibility for faulty work, 18, 76, 81, 107, 119, 156 *et seq.*
- Rules apply to, 18, 81, 119, 324 *et seq.*

As to entry and inspection—

- Entry to premises of, 45, 82, 106, 130, 149, 166, **230, 347**.
- may examine licensee's records, 164, 325.
- Wires, etc., of, may be examined, 82, 106, 149, **230, 323, 324**.

CONSUMPTION OF ENERGY, Dishonest—(*See "Stealing energy"*)

CONTEXT in relation to rules, note on, 326.

CONTINUITY OF SUPPLY, 83, 84, 164, **290, 305, 324, 325**.

CONTRACT for supply to be entered into, 75-77, **244, 290, 293**
(*See also "Agreement."*)

CONTRACTORS, LICENSED, WIRING, 79, 328.

CONTROL of circuits, rule as to, 161.

„ „ energy, „ „ „ 329.

CONTROL, Licensee may not, energy, 231.

“CONTROL” of Government, 199.

CORRECT METERS—(*See "Meters"*).

CORRESPONDING SUPPLY, 95 *et seq.*, **233**.

COST—

- of arbitration, 123.
- of cutting off or reconnecting supply, **236**.
- of reinstating streets, **204, 205, 224**.
- of removing works, etc., **204, 205**.
- of testing meters, **239**.
- per unit in India, **110**.

“COVERED with insulating material,” defined, 316.

CRIMINAL OFFENCES and procedure, **265 et seq.**

CROSS' COMMITTEE, Lord, **178 et seq.**

CROSS-HEADINGS, note on, 17.

CROSSING Streets, etc., rules as to, 334 *et seq.*
metallic substances, 335.

CROWN, Provisions binding the, 136, 138, 142, 148, **250, 251, 253**.

CURRENT—(*See "Ampere."*)
= limiters, 67.

CUTTING ELECTRIC LINES, **270, 276**.

CUTTING OFF SUPPLY OF ENERGY—

Automatic, by cut-out, 84, 177.

By Licensee.

- Cost of, **236**.
- Entry on premises for, 82, 106, 150, 166, **230, 323, 324, 347**.
- forbidden conditionally if there is a dispute, 103, 105, **236**.
- for failure to pay charges, 82, 105, **236**.
- „ „ „ give security, 82, **290**.
- „ „ „ allow entry, 150, 166, **230, 324**.
- for testing, 83, **305**.

Antique figures refer to text of Act and Schedule.

CUTTING OFF SUPPLY OF ENERGY—*Contd.*

By Licensee.

- generally, 329.
- if alterations are made without notice, 82, **291**.
- if facilities for inspection are refused, 82, **230, 324**.
- if installation is not in good order, 81, **291, 324**.
- in case of leakage, 81, 167, **291, 324**.
- „ „ „ misuse of energy, 82, **291**.
- in mines and oil-fields, 342.
- Penalty for illegally, 139, 140, **270, 274, 275, 276**.

By other persons,

- maliciously, **270, 274, 275**.
- mischievously, 270, 275.
- negligently, 140, **276**.

CUT-OUT defined, 316.

- Automatic protection by, 84, 177.
- Function of, 84, 177.
- Fusing of, 84, 177.
- Licensee's and consumer's, 327, 330.
- Owner and consumer to provide, 330.

CYCLONES, failure to supply due to, 167, **290, 297**.

D

DAILY FINE, definition of, **191**.

DAMAGE, DAMAGING—(*See also "Disputes"*).

- Licensee to make compensation for, 69, **213, 217, 218, 221, 223, 227, 228**.
- Recovering cost of, 69, **229**.
- to licensee's works, etc., **270, 273, 274, 275**.
- works maliciously, 139, **270**.
- „ mischievously, 270, 275.
- „ negligently, 140, **276**.

DANGER, -OUS—

- defined, 316.
- from shock and fire, 80, 81, 273, 326, 329.
- Precautions against (Chap. V of Rules, *passim*), 323 *et seq.*
- Remedying dangerous works, 68, 121, 127, 131, **257**.
- to public, or human life, or telegraph line, 121, **257**.

DARJEELING hydro-electric installation, 32.

DATES, DAYS—

- as regards accounts, 110, **212, 326**.
- „ „ releasing security, **285**.
- Computation of (*see Introduction para. 29 ; General Clauses Act, ss. 9 and 10*).
- of commencement of license, 323.
- of compulsory purchase, **202, 205, 206**.
- of revocation, **202, 205**.

"DEAD" defined, 316.

DEBTS, Purchased undertaking to be vested free of, 38, 42, **203, 207**.

DECLARED PRESSURE AND FREQUENCY, 71, 72, 84, 164, 324, 325.

DEDICATION, iv.

DEFAULT—

- General penalty clause for, 141, **276**.
- in case of meters, **239**.

Antique figures refer to text of Act and Schedule.

DEFAULT—Contd.

- in complying with license, 32, **200, 276.**
- „ „ „ order of Government, 122, **271, 276.**
- „ „ „ rules, 136, **262, 346, 347.**
- of consumer as to supply, **290, 291.**
- „ „ in paying charges, 83, 105, **236.**
- (See also “ *Penalties.* ”)

DEFECTIVE WORKS, ETC.—

- of consumer, 156 *et seq.*, **291, 295, 323 et seq.** (See also “ *Danger,* ” “ *Earthing of Metal* ”)
- of licensee, 68, 121, 127, 131, **257.**

DEFINITIONS—

- from the General Clauses Act, 144, 145.
- „ „ Indian Electricity Act, **191 et seq.**
- „ „ „ „ Rules (see Appendix I, rule 2), 315 *et seq.*
- „ „ „ Factory Act, 251
- „ „ „ Mines Act, 252.
- „ „ „ Motor Vehicles Act, 169
- „ „ „ Telegraph Act, 50, 51, **191.**
- „ „ „ Tramways Act, 170 *et seq.*
- of “ load factor ” and “ diversity factor,” 101, 102.
- of tree, 68, 149, **227.**

DELEGATION of powers—(See “ *Electric Inspectors* ”).

DEPOSIT—(See also “ *Security* ”)

- for execution of licensee's works, **285.**
- of amount of charges in dispute, by consumer, 105, 106, **236.**
- of copies of license, 30, 321 **323**
- of map of area of supply, **305, 323.**

DEPRECIATION, 41, 108.

Account—(See Annexures IV and V to Rules in Appendix I).

DETIMENT caused by licensee, 229—(See also “ *Damage* ”).

DEVOLUTION ACT, 1920—(See *Table of Enactments*, xv).

DIFFERENCES—(See “ *Disputes,* ” “ *Arbitration* ”).

DIFFERENTIAL RATES OF CHARGE, 93 et seq., 234.

DIRECTOR OF MILITARY WORKS, see Engineer in Chief, Army Headquarters.

DISCONNECTING meter, illegally, 103, 140, 239, 273.

- circuit, automatically, 177
- earth connection, 330, 331.

DISCONTINUING SUPPLY—(See “ *Cutting off* ”).

- by distributing licensee, **300.**

DISHONEST ABSTRACTION, CONSUMPTION OR USE OF ENERGY—(See “ *Stealing energy* ”).

DISPUTES—(See also “ *Arbitration* ”).

- Meter may not be removed pending settlement of, 103, **239.**
- Supply may not be cut off pending settlement of, 103, 105, **236.**
- to be settled by arbitration (See “ *Arbitration.* ”)
- „ „ Electric Inspector, 130, 131, **232, 236, 239, 240, 292**
- „ „ the Local Government, **246, 250, 254, 288.**

As to the operation of the Act—

- as to operation of Part III in certain places, **250.**
- as to the “ business of supplying energy,” 116, **246.**
- as to whether a place is or is not one in which one hundred persons are likely to be assembled, **250**

Antique figures refer to text of Act and Schedule.

DISPUTES—*Contd.*

As to licenses and undertakings—

as to value of undertaking, 41, **202, 206.**

As to supply and charges—

as to amount of energy (to be) taken, **240, 288, 292, 299.**

as to charges, 104, **236.**

as to compensation. (*See "Compensation."*)

as to cost of service-line, **292.**

as to maximum power, **292, 299.**

as to meters, 104 *et seq.*, **236, 239.**

as to minimum charges, **233, 292, 299.**

as to premises having separate supply, **233.**

as to security, **220, 288, 292.**

as to supply to public lamps, 77, 90, 102, **303.**

as to undue preference, rebates, differential charges, 95 *et seq.*

As to supply and works—

as to alteration of pipes and wires, **220.**

as to compensation, **217, 218, 221, 229, 254.**

as to cost of service-line, **292.**

as to damage done, **221, 229, 254.**

as to defective wires and leakage, **291, 323, 324.**

as to expenses of reinstatement, **225.**

as to security, **220, 288, 292.**

as to works carried out under Telegraph Act, 52, 53.

as to works in proximity to other works, **221, 223, 254.**

between licensee and telegraph authority, 126, **254.**

As to use of energy—

as to bulk supply, **299.**

as to defective wires, **291, 323, 324.**

as to interference with use of energy, **232, 291.**

as to maximum power, **291, 299.**

DISTRESS—

Fees and sums recoverable by, 137, 143, **281-282.**

(*See also "Attachment."*)

DISTRIBUTING LICENSEE, 86, 114, **298-300, 316.**

defined, 316.

DISTRIBUTING MAIN—

Definition of, **191, 193.**

Requisition for laying, 76, **288, 366.**

Special provision where there is no, **297.**

DISTRICT MAGISTRATE—(*See "Magistrate"*).

DISUSED aerial line, 337.

DIVERSITY FACTOR, defined, 100-102.

DIVERTING—

pipes or wires interfering with works, 47, **219.**

supply of energy maliciously, 139, **270.**

„ „ „ negligently, 140, **276.**

DIVIDENDS and sliding scale, 87, 88.

DOCKS, DOCKYARDS—

Protection of, 121, **253.**

when used for military or naval purposes, 14, 31, 124, **195, 198.**

DOCUMENTS, addressing and service of, 147, 281.

DRAFT—

license, 29 *et seq.*, 320 *et seq.*, 349 (Model Form).

rules to be published, 136, 145, 146, **264.**

„ „ „ reported on by Advisory Board, 132 *et seq.*, **264.**

Antique figures refer to text of Act and Schedule.

DRAINS—(See “*Alteration of pipes*,” “*Breaking up*”).

DURATION OF LICENSE, 31, 39. (See also “*Compulsory purchase*.”)

E

EARTH, “EARTHED”—(See *Introduction*, para. 36).

Connection with, 64, 68, 71, 80, 81, 84, 121, 156 *et seq.*, 176 *et seq.*, **257**, 317, 329, 330, 334, 337 *et seq.*

“ ” definition of, 317.

“ ” in case of traction, 176 *et seq.*, 337 *et seq.*

defined, 317.

neutral conductor, 329.

Removal of earth connection, 330, 331.

Responsibility for earthing metal, etc. (See “*Connection with Earth of Metal*.”)

EARTHING OF METAL, compulsory 64, 68, 71, 80, 81, 84, 121, 156 *et seq.*, 177, 329, 334.

EARTHING SYSTEM defined, 317.

ELECTRICAL ENERGY, ELECTRICITY—(See “*Energy*”).

“ELECTRICAL ENGINEERING PRACTICE,” 1, 4, 65, 67, 93, 100, 109, 337, 338, 339.

ELECTRICAL UNDERTAKINGS—(See “*Undertakings*”).

ELECTRICIAN defined, 317.

to be competent, 317, 344.

ELECTRICITY ACT, 1887—(See *Introduction*, para. 2, and *Table of Enactments*, xv).

ELECTRICITY COMMISSIONERS (British), 9, 10, 249, 334.

Factors of safety of, 334.

ELECTRIC INSPECTOR—(See *Introduction*, para. 25).

Appeal from decision of, 131, **260**, 319.

Appointment of, by Governor-General in Council, 125, 130, **260**, 319.

“ ” “ ” Local Government, 125, 130, **260**, 319.

as expert witnesses, 129, 132.

as to correct meters, 103 *et seq.*, **238** *et seq.*

as to instruments and testing stations, **304**, **305**, 319, 320.

as to inspection of mains, **305**, 319, 320.

as to licensee's works, **304**, **305**, 319, 320.

as to maps and plans, **305**.

Conferences of, 99, 115, 131, 235, 265.

defined, 317.

Delegation of powers to, 127, 131, **282**.

Entry into consumer's premises by, **262**, 319, 347.

“ ” licensee's premises by, **262**, **304**, 319.

“ ” owner's premises by, **262**, 319, 347.

Expenses of, **262**.

Facilities for testing to be given to, **304**, **305**.

Fees for inspection by, **262**, 319, 320.

for mines, 121, 125, 131, 260.

for railways, 125.

in case of meter disputes, 103, 104, **239**.

Inquiry into accident by, 120, 150, **256**.

Interruption of supply caused by, 83, **305**.

Limitation of appeals to, 319.

Notice of new works to, 47, **306**.

Order of, to comply with rule, 319, 368.

Power to frame rules regarding, 125, **260**.

Qualifications of, 131, **262**, 319.

Antique figures refer to text of Act and Schedule.

ELECTRIC INSPECTOR—*Contd*

- Relaxation of rules by, **346**
- Responsibility of (See 'Responsibility')
- Rules regarding and qualification required of, **262, 319**
- Settlement of disputes by, **232, 236, 239, 240, 292.**
- to estimate value of supply where meter ceases to be correct, **104, 240.**
- (See also "Testing and Inspection")

ELECTRIC—

- lighting and power, note on, **2**
- „ of streets broken up, **48, 224.**
- (See also "Lighting," "Public lamps")
- Lighting Acts, 1882, 1888, 1899, 1909, 1919, 1926 (See Introduction, para 3, and Table of Statutes, xv)
- power (See "Power," "Water power")
- Powers (Protective Clauses) (See "Report")
- shock, precautions against, **80, 81, 84, 273, 326, 329**
- signalling, interference with, **126, 226, 244, 254, 262.**
- „ and shot-firing in mines, **345**

ELECTRIC SUPPLY LINES—

- (See also "Access," "Aerial lines," "Mains," "Distributing mains," "Service lines")
- Definition of, **191, 192**
- Alteration of, belonging to consumer, **82, 291.**
- Control of, **161, 329**
- Cutting or injuring maliciously, **270.**
- „ „ „ mischievously, **270, 275**
- „ „ „ negligently, **276**
- Defective or dangerous, **68, 121, 127, 157, 257.**
- in case of emergency, **47, 218, 222, 226, 276.**
- in public streets, etc, **44, 213 et seq, 243, 247.**
- laid near other lines, pipes, etc, **222.**
- Licensee may remove his, **230.**
- Maintenance of, **329**
- near sewers, etc, **219, 222.**
- of licensee on consumer's premises not liable to attachment, **107, 238, 282**
- on private land, **45, 213, 214.**
- over or under railways, tramways, etc, **44, 213 et seq, 244, 253.**
- Placing, outside area of supply, **195, 243.**
- Power to lay down and place, **44, 213, 243, 247.**
- Repair of, **217, 224.**
- Rules regarding, **326 et seq**
- Testing licensee's, **304, 305.**

ELECTRIC TRACTION—TRAMWAYS—RAILWAYS—

- (See Introduction, paras 34 to 36)
- Application of section 18 to, **249.**
- Bonding rails **181**
- combined with other undertakings, **34 et seq, 163, 209**
- Exclusion of railways and tramways from Part III, **119, 168, 249.**
- License not required for, **168**
- Provisions regarding, **168 et seq**
- Rules regarding **169, 261, 337 et seq**
- (See also "Railways," "Tramways," and Table of Statutes and Enactments, xv)

ELECTRO CHEMISTRY and METALLURGY, 4

ELECTROLYTIC ACTION—(See Introduction, para 36)

- Damages to pipes, etc, by, **176 et seq, 261, 337 et seq.**

Antique figures refer to text of Act and Schedule.

EMERGENCY—

- Aerial lines placed in, 47, **218, 222, 226, 276.**
- in case of digging trenches near sewers, pipes or works, **222, 276.**
- Offences not punishable in certain cases of, **276.**

ENACTMENTS and STATUTES, Table of, xv.

ENERGY—

- Definition of, **191, 194, 251**
- Amount of, ascertaining, 102 *et seq*, **230, 234, 238, 288, 292, 299.**
- „ to be taken or guaranteed, **288, 292, 299.**
- Artificial means for abstraction of, or interference with, 139, 140, **265 et seq**, **273 et seq**
- Charges for (See ‘ ‘ charges ’ ’)
- Cutting off supply of (See ‘ ‘ Cutting off. ’ ’)
- Engaging in the business of supplying, 116, **246.**
- Improper use of, 77 *et seq*, 82, 139, 140, **231, 265 et seq**, **270, 273, 291.**
- included in term ‘ ‘ work ’ ’ in relation to Land Acquisition Act, 61, **283.**
- Licensee not to interfere with use of, 77, **231.**
- Misuse of, by consumer, 78 *et seq*, **231, 291.**
- Notice to be given of use of, in certain places, 150, **249 et seq.**
- Obligation on licensee to supply, 73 *et seq*, 162, **233, 290 et seq**, **297, 298.**
- Refusal to supply, 80, 165, **233, 288, 290, 324**
- Requisition for supply of, 74, 163, **290, 297, 298, 367.**
- Restrictions on transmission or use of, 118 *et seq* **245-253.**
- Supply and use of. (See *Introduction, paras 16, 17, 20 and 21*)
- „ of, for naval or military purposes, 14, 31, 124, **195, 198**
- „ of, not to be interfered with by consumer, 78, 82, **231, 291.**
- „ of, for testing, **305.**
- Undue preference in supply of, 95-99, **233, 234.**
- Use of, by consumer, not to be interfered with, 77, **231.**
- Value of supply of, **234, 238 243.**
- Penalty for—*
- abstracting, consuming or using dishonestly, 139, **265 et seq.**
- failing to, or discontinuing supply, 141, **271.**
- improperly using, 140, **265 et seq**, **270, 274.**
- maliciously wasting, diverting or cutting off, 139, **270.**
- mischievously cutting off, etc., 270, **275.**
- negligently dealing with, or causing damage, 140, **276.**
- Offences in case of energy supplied by Government, 142, **277.**
- Supplying, without authority, 140, 141, **271.**
- Using or transmitting, without notice, 140, **273.**
- (See also ‘ ‘ Bulk supply,’ ‘ Supply,’ ‘ Use,’ ‘ Transmission.’ ’)

ENGINEER IN CHIEF, Army Headquarters, 31, 124, 195, 198.

ENSURING proper supply, Rules for, 323 et seq

ENTRY ON PREMISES—

- of consumer by licensee, 45, 82, 106, 130, 149, 166, **230, 325, 326, 347.**
- of licensee by inspector, **262, 304-305, 319**
- of owner by inspector, **262, 319**
- Rules regarding, 319, 323, 324, 347

EVIDENCE—

- Artificial means for abstracting energy as, 139, 140, **265 et seq**, **273-275.**
- „ „ interference with meter, works or supply as, 139, **274.**
- Expert and impartial, 129, 132
- Register of meter as, 104, 105, **240, 243**

EXAMINATION—(See ‘ ‘ Testing and Inspection ’ ’)

Antique figures refer to text of Act and Schedule.

EXAMPLE of load factor, 101.

„ „ profit sharing, 88

„ „ sliding scale, 87, 88.

EXCHANGE of undertakings forbidden, **209**.

EXEMPTION—

from attachment, of wires and fittings, 107, **238**, 282

from Part III of Act, of Railways, etc., 119, 168, **249**.

from penalty in cases of emergency, **276**.

from certain rules, 346.

of persons from provisions of Part III, 119, **249**.

EXPENSES—

of Advisory Board, **259**.

of arbitration, 123

of cutting of or reconnecting supply, **236**.

of providing new meters, **301**.

of reinstating street, **204**, **205**, **225**.

of removing works, etc., **204**, **205**.

of testing meters, **239**.

EXPLANATORY notes on rules, 18, 315 *et seq*

EXTENSIONS to installation, to be notified, 83, **291**.

to area of supply, *see* “*Area of Supply*”

EXTENT OF INDIAN ELECTRICITY ACT, **190**.

F

FACTOR—

Load, and Diversity, 96, 97, 100-102, **234**.

Power, **234**.

FACTORY—

Definition of, 251

Indian Factories Acts, *see Table of Enactments*, xv.

Part IV of Act applies in, **249**.

Penalty for not giving notice of use of energy in, 118 *et seq*, **273**.

Use of energy in certain factories, 118 *et seq*, **249**, **273**.

FAILURE to supply energy, 80 *et seq*, 165-166, **271**, **272**, **292**.

FEES—

for copies of plans, etc., 325.

„ examination of licensee's records, 325.

Incidence of, for Inspector's services, 320.

of Advisory Board, **259**.

of Electric Inspectors, **262**, 319, 320, 348.

payable for license, 321.

Recovery of, 136, 143, **281**.

Rules regarding, 320

Scale of, for testing, 348

FENCING of opened up streets, 48, **224**.

FINES—

Definition of daily, **191**.

Recovery of, 136, 143, **281**.

FIRE and shock risks, 80, 81

FITTINGS—

of consumer to be in good condition, 81, **291**, 323, 324.

of licensee not liable to attachment, 107, **238**, 282

„ „ removal of, **230**.

Antique figures refer to text of Act and Schedule.

FIXED charge per H.P. or kw., 91 *et seq.*, 235.

FLAT rate charges, 91 *et seq.*, 235, 301.

FLOODS, failure to supply due to, 167, **290, 297.**

FORCE MAJEURE, 167, 293.

FORMS—

Model, of accounts (Appendix I, Annexures IV, V), 326, 353, 359.

“ ” Annual Return for Oil-fields, 369.

“ ” license (Appendix I, Annexure III), 30, 321, 348.

“ ” licensee's “ Conditions of Supply,” 78, **231, 372.**

“ ” Log-sheet for Mines and Oil-fields, 371.

“ ” order to comply with rule, 319, 368.

“ ” requisition for mains, 326, 366.

“ ” ” ” supply, 326, 367.

of application for license, 30, 320 *et seq.*

FORTRESS, supply of energy in, 14, 31, 124, **195.**

“ FREE-WIRING ” systems, 238.

FREQUENCY and pressure to be constant, 71, 84, 164, 324, 325.

Declared, 71.

Testing of licensee's, **304, 305.**

FUEL cost in India, 110.

FUSES—(See *Cut-outs*).

FUSING of cut-outs, reasons for, 84, 177. (See also “ *Cut-outs*.”)

G

GANGES hydro-electric scheme, 208.

GAS—

Acts. (See *Table of Statutes*, xv.)

companies and licensees, 155, 221.

Electrolytic action on, pipes, 176 *et seq.*, **261, 337 et seq.**

(See also “ *Alteration of pipes, etc.*”)

GENERAL CLAUSES ACT, 1897—

(See *Introduction*, para. 29, and *Table of Enactments*, xv.)

Date for consideration of rules under, **264.**

Definitions from, 144, 145.

GENERAL SUPPLY—(See “ *Supply* ”).

GENERATING STATION, PLANT, ETC.—

Cost per unit in India from, 110.

Declaration as to sale of, 34, **196, 202, 206.**

in case of combined undertakings, 34 *et seq.*, 163, **196, 202, 206, 210.**

may be outside area of supply, 29, **195.**

Private, 73, 112, **233, 249 et seq.**, 328.

Report on, 85, 178.

Rules to regulate generation of energy, etc., 261 *et seq.*, 326 *et seq.*

Two areas supplied from a single, **207.** (See also “ *Combined undertakings*.”)

“ GOING CONCERN,” 40, 174, 208.

GOLDEN VALLEY case—(See “ *Rangoon*.”).

GOOD FAITH—

Definition of, 144, 282.

Protection for acts done in, **282.**

GOVERNMENT—

as licensee, 126.

Antique figures refer to text of Act and Schedule.

GOVERNMENT—*Contd.*

- Default in complying with order of, 122, **271, 276.**
- defined, 144.
- of India, defined, 144.
- License inoperative if purchased by, 38, 43, 127, 142, **203, 207.**
- „ may be granted to, 126.
- Local, defined, 144.
- Penalties when energy supplied by, 127, 142, **277.**
- Places occupied by, for naval or military purposes, 14, 31, 124, **195, 198.**
- Undertakings belonging to, 127, 142, **277.**
- „ purchased by, **203, 207.**

(See also "*Crown*," "*Governor-General in Council*," "*Local Government*.")

GOVERNOR-GENERAL IN COUNCIL—

- (See *Introduction*, para. 24.)
- Consent of, originally required, 121.
- "Government of India" defined, 144.
- may appoint Advisory Board, 125, 132, **259.**
- „ „ Electric Inspectors, 125, 130, **260.**
- Notices, how served on, 125, **281.**
- Rules may only be made by, 125, 134, **261.**
- Service of notices on, 125, **281.**

GRANT OF LICENSE—

- by Local Government, 28 *et seq.*, **195-199, 320-323.**
- gives no monopoly, 29, **196, 244, 246.**

GREAT INDIAN PENINSULAR RAILWAY, 3.

GUARDING—

- of aerial lines. (See "*Aerial lines*.")
- of opened up streets, 48, **224.**
- when crossing telegraph or other lines, 328, 329, **335-337.**

H

- HEIGHT** of aerial lines, 334.
- HENZADA CASE** of unauthorised supply, 116.
- HIGH PRESSURE**, rules regarding, 331-333.
- apparatus, testing, 333.
- HIGH-SPEED** circuit breakers, 67.
- HIRE** of meters, 103, **239.**
- and hire-purchase of service lines, 75, 238, 294.
- HIRED** fittings, etc., and attachment, 238.
- HOUSE**, attaching stays, etc., to, 45, 149, **213.**
- wiring, 79-82, **291, 328 et seq.**
- HOUSE SERVICE—**(See "*Service-lines*").
- HOWRAH BRIDGE ELECTRIC LIGHTING ACT, 1902,—0, 185.**
- HYDRO-ELECTRIC POWER, 1, 233.**
- schemes, 2, 32, 126, 208.
- Survey of India, 1, 5.

I

IMPRISONMENT—

- Definition of, 144.
- Offences involving, **265, 270, 275.**

IMPROPER USE OF ENERGY—(See "*Energy*.")

- „ „ „ by consumer, 78, **231, 291.** (See also under "*Energy*," "*Penalties*.")

Antique figures refer to text of Act and Schedule.

- INCONVENIENCE caused by licensee, **229**. (*See also* "Damage.")
- INDIA : BRITISH INDIA, defined, 144.
Government of, defined, 144.
- INDIAN ARBITRATION ACT, 1899 -
(*See Introduction, para. 23, and Table of Enactments, xv.*)
(*See also* "Arbitration.")
- INDIAN COMPANIES (AMENDMENT) ACT, 1910, 108, 175.
- INDIAN ELECTRICITY ACT, 1903—(*See Table of Enactments, xv.*)
Licenses granted under. (*See Introduction, para. 37.*)
Origin and defects of. (*See Introduction, para. 5.*)
Repeal of, 184. **283**.
- INDIAN ELECTRICITY ACT, 1910, as amended—
Extent of, **190**.
General arrangement of, 16, **187 et seq.**
Statement of Objects and Reasons of (1910), 19.
" " " " " " (1922), 24.
Part I, annotated **190 et seq.**
Part II and Schedule, annotated. (*Introduction, paras. 8 to 19*), 28 *et seq.*, **194 et seq.**
Part III, annotated (*Introduction, paras. 20 and 21*), 111 *et seq.*, **245 et seq.**
Part IV, annotated (*Introduction, paras. 22 to 28*), 120 *et seq.*, **253 et seq.**
Schedule, annotated, 29, **284 et seq.**
The Act in relation to various parties. (*Introduction, paras. 29 et seq.*)
(*See also* "Rules" and *Table of Enactments, xv.*)
- INDIAN ELECTRICITY AMENDMENT BILL (PATEL) (1918), 152.
- INDIAN ELECTRICITY (AMENDMENT) ACT, 1922—
Statement of Objects and Reasons, 24.
(*See Table of Enactments, xv.*)
[*Note.*—Provisions incorporated in the "Indian Electricity Act, 1910"—*see above.*]
- INDIAN ELECTRICITY (AMENDMENT) ACT, 1923, 16, 68, **249**.
(*See section 29A of the principal Act.*)
- INDIAN ELECTRICITY RULES—(*See* "Rules").
- INDIAN FACTORIES ACTS—(*See* "Factory" and *Table of Enactments, xv.*)
- INDIAN MINES ACTS, THE—(*See* "Mines" and *Table of Enactments, xv.*)
- INDIAN MOTOR VEHICLES ACT, 1914, 169.
- INDIAN PENAL CODE—(*See also Table of Enactments, xv.*)
as to recovery of fines, 137, 142.
as to theft of energy, 130, **265 et seq.**
"Mischief" defined by, and mischievous acts punishable under, 270, 275.
- INDIAN RAILWAYS ACT, 1890—
(*See Introduction, para. 34, and Table of Enactments, xv.*)
Railways and tramways subject to, 119, 168 *et seq.*, **249, 252**.
- INDIAN RAILWAY COMPANIES ACT, 1895, 175.
- INDIAN TELEGRAPH ACT, 1885, as amended—
(*See Introduction, para. 12, and Table of Enactments, xv.*)
Definitions of, included in Electricity Act, 50, **191**.
Amendment of, 50.
Extracts from (referred to in section 51 of Act), 50 *et seq.*
Persons licensed under, 156.
Provisions of, regarding lines and posts, may be delegated, 50, **277**.
(*See also* "Telegraph Authority," "Telegraph Lines," "Telephone.")

Antique figures refer to text of Act and Schedule.

INDIAN TRAMWAYS ACT, 1886—

(See *Introduction*, para. 35, and *Table of Enactments*, xv.)

Précis of amended, 168 *et seq.*

INDIAN TRAMWAYS ACTS, 170, 175.—(See also "*Tramways.*")

INDUCTION, Protection against interference by. (See "*Interference with.*")

INDUSTRIES, Department of, 125.

INJURIOUSLY AFFECTING OR INTERFERING WITH—(See below "*Interference with.*")

INJURY—

Accidents involving personal, 150, **256**.

Rules for preventing, 326 *et seq.*

to railways, tramways, canals, docks, etc., 121, **253**.

to works of licensee, **219, 223, 270 et seq.**

INQUIRY—(See also "*Advisory board.*")

as to objections to license, 322.

into accident, 150, **256**.

INSOLVENCY—

of consumer, 107, **238, 282**.

of licensee, **200**.

INSPECTION—(See "*Electric Inspector.*", "*Entry on Premises.*", "*Testing and Inspection.*").

INSPECTOR of mines defined, 317.

(See also "*Electric Inspector.*")

INSTALLATIONS, Additions or alterations to, 82, 291.

INSTITUTION of Electrical Engineers "*Wiring Rules.*" 81.

INSTRUMENTS—

on licensee's premises and stations, **304, 305**.

Standard, 320.

Testing of licensee's, **304, 305**.

INSULATION, defective, Rules as to, 323 *et seq.*

INSURANCE COMPANIES and fire risk, 80.

INTEREST on capital during construction, 108, 175.

on security deposits, 109, 379.

INTERFERENCE (WITH)—

aerial lines by trees, 53, 68, 149, **227, 249**.

Inductive, **254 et seq.**

meters, 103, 140, **239 et seq., 273**.

pipes, etc., **219, 222, 261**.

supply of energy, 77 *et seq.*, 140, **230, 231, 265, 270 et seq., 291**.

telegraphs, 126, **225, 244, 254, 257, 262, 329 et seq.**

use of energy, 77, **231**.

works of licensee or other authorized persons, **219, 222, 225, 270 et seq., 273, 275, 305**.

INTERPRETATION—(See "*Definitions.*").

INTERRUPTION of supply for testing, 83, **305**.

INTERVENING AREAS, 29, **195, 321**.

J

JABLOKHOFF candles, 8.

JOINT COMMITTEE, clauses framed by. (See "*Report.*") •

JUNCTION-BOXES in streets, 330.

JUNGLE-GROWTH, included under "*tree.*" **227**.

Antique figures refer to text of Act and Schedule.

K

- KALKA-SIMLA RAILWAY, 3.
- KILOWATTS of plant in India (Tables), 6.
- KINEMATOGRAPH—(See "*Cinematograph*").
- KITE strings causing accidents, 64.
- KITSON CLAUSE, 85.

L

- LABORATORIES, Protecting, 135, 180, **262**, 263.
- LAND ACQUISITION—
 - British provisions as to, 62.
 - Land Acquisition Act, 1894 and 1923, Abstract of, 57 *et seq.*
 - Amendment of, 58, 59, 61, **283**.
 - Companies and individuals can acquire land under, 58, **283**.
 - (See also *Introduction*, para. 13), 57 *et seq.*
- LAND, PRIVATE, entry on. (See "*Access*.")
- Breaking up, *q.v.*
- Stays and struts on, 45, 149, **213**.
- LAMP—(See also "*Public lamps*").
- Damaging public, **275**, **276**.
- Type of not to be prescribed, 77, **231**.
- LEAD-COVERED wire, earthing, 81, 84, 177.
- LEAKAGE AND ELECTROLYSIS—
 - Cape Town case, 182, 183, 255.
 - Disconnection for, 76, 324.
 - in case of tramways, 176 *et seq.*, 337-338.
 - on consumer's premises, 76, 81, 82, 167, **291**, 323-324.
 - Report of Lord Cross' Committee on, 178-181.
- LEASE OF UNDERTAKING, **209-210**.
- LEVEL, Breaking up railways, etc., on. (See "*Breaking up*").
- LIABILITY—(See also "*Accident*," "*Compensation*," "*Nuisance*").
- of consumer and licensee. (See "*Responsibility*").
- of non-licensee, 116, 117.
- LICENSE—(See *Introduction*, paras. 8 to 10).
- Acquiring by licensee, 108, **209**.
- Amendment of, 33, **200**, 323.
- Application for, 30, **195-199**, 320-321.
- Approval of draft, 30, 322.
- Arbitration as to purchase, **202**, **206**.
- Assignment of, **209**.
- ceases to operate if Government purchases, 38, 43, 127, 142, **203**, **207**.
- Commencement of, 323.
- Conditions in, 29, 33, **196**, **200**.
- Consent of local authority not a condition to grant of, 152.
- Contents of, 30, 31, **195**, 320 *et seq.*, 348 (Model Form).
- Default in complying with, 32, **200**, **276**.
- Deposit of copies of, 30, 323.
- Draft and final license to be sold to any applicant, 321, 323.
- Duration of, 31, 39.
- Fee for application for, 321.
- for bulk supply. (See "*Bulk supply*").

Antique figures refer to text of Act and Schedule.

LICENSE—*Contd.*

- granted before commencement of Act (*Introduction, paras. 4 and 37*), 10, 184, **283**.
- „ to Government, 126.
- Model Form of, 30, 321, 348 (Model Form).
- No monopoly granted by, 29, **196, 244, 246**.
- not compulsory, 29, 111, **246, 249**.
- not required for electric traction, 168.
- Objections with regard to, 31, **195, 322**.
- Orders supplementing or amending, 322, 323.
- Power to vary terms of purchase in any, 40-42, 86-88, **211**.
- Purchaser of, becomes licensee, **203, 207**.
- Revocation of. (*See "Revocation of Licenses."*)
- Rules as to, grant of, 320 *et seq.*
- Schedule to Act forms part of, 29, **196, 284**.
- Supply of energy under, 28 *et seq.*, **194 et seq., 246**.
- Working, during completion of sale, **204**.
- (*See also "Supply without license."*)

LICENSED undertakings in India (Table), 6.

LICENSEE—(*See Introduction, paras. 32, 33*).

- Definition of, **192**.
- authorized to make "conditions" of supply, 78, 231, 372 (Model Form).
- Distributing, 86, 114, **298-299, 316**.
- Entry on premises of, 130, **262, 304, 319**.
- Government as, 126.
- Model Form of Accounts for, 326, 353, 359.
- „ „ „ "Conditions of Supply for," 78, **231, 372**.
- Penalty for injuring works of, **270, 273, 275, 276**.
- responsible for observance of certain rules, 346.
- Rules applicable to, 323 *et seq.*
- Testing, etc., by, 81, 106, **230, 304, 323, 324, 330, 333**.
- under Telegraph Act, 54.

As to licensee and undertaking—

- Association of, with other licensees, **209**.
- Breach of license by, **200, 276**.
- Insolvency of, **200**.
- Monopoly not given to, 29, **196, 244, 246**.
- not to assign license or transfer undertaking, **209**.
- „ „ sell undertaking or acquire others, 108, **209**.
- Purchaser of license becomes, **203, 207**.
- to give security, 109, **200, 285**.
- to keep and sell accounts in specified form, 109, 110, **212, 326, 353, 359**.
- „ „ copies of license, 321, 325.
- „ „ separate accounts of different undertakings, 109, 163, **286**.
- to pay expenses of audit, **286**.
- to receive notice of intended purchase of undertaking, **202, 207**.
- Wilful or prolonged default of, **200**.

As to supply and use of energy—

- Agreement and contract between consumer and, 75, **244, 290, 293, 298, 299**.
- Apparatus of, with consumer exempted from attachment, 107, **238, 282**.
- Conditions of supply by, 78, **231, 288, 290-292, 372**.
- may be present at testing, **305**.
- „ cut off supply. (*See "Cutting off supply."*)
- „ demand deposit of charges in dispute, 105, **236**.
- „ demand security from consumer, 75, **288, 290-293**.
- „ enter premises, 82, 106, 149, **230, 347**.

LICENSEE—*contd*

- As to works—*

- LICHTING—**

- LIGHTNING, 66, 327**

Antique figures refer to text of Act and Schedule.

LIMITATION of appeals, 319.

LIMITS—(See “Area of supply,” “Price,” “Responsibility,” “Supply”)
of error of meter, 243, 317, 381

LINE—(See “Electric supply-line”)

LINKED switches, 329

LIST of cases cited, xvii, xviii
of consumers to be kept, 320
of electrical undertakings in India, 4 *et seq*, 110
of local authorities in draft license, 320.

LIVE defined, 317

LOAD FACTOR, 95 *et seq*, **234**.

„ „ defined, 100, 101

LOCAL AUTHORITY—(See *Introduction*, para 31)

Definition of, 144, 151

as licensee (see also “Licensee”), 107, 151, 152, **196, 205**.

as repairing authority, owner or operator, 153, **216, 219, 222**.

as to public lighting, 77, 90, 102, 117, 153, **248, 297, 303**.

cannot veto license, 152.

Consent of, to break up streets outside area of supply, 153, **244**.

„ „ to unlicensed public supply, **246**.

Form of accounts for, 326, 353

may apply for license, 152, **196**.

„ confer power to break up streets in certain cases, 117, 153, **247**.

„ make agreement for working of undertaking, **207**.

„ purchase an undertaking with sanction, 33 *et seq*, 87, 152, **201, 206**.

Notice of revocation to be served on, **202**.

Personal liability of servants of, 155, **282**.

Provisions of Telegraph Act as to property of, 52 *et seq*

Revocation of license and sale of undertaking of, 39, **205**.

Service of notices on, **281**.

supplying energy without a license, 153, **248**.

to receive notice of lines laid under special agreement, **297**.

„ „ intended purchase of undertaking by licensee, **209**

LOCAL INQUIRY—(See “Inquiry”)

LOCAL GOVERNMENT—(See *Introduction*, paras 24 and 30)

Approval, consent, etc., of, when required, 128

as licensee 126

as “repairing authority,” “owner,” or “operator,” 148.

Default in complying with order of, 122, **271, 276**.

Definition of, 144

Delegation of powers by (see below)

Disputes to be settled by, **246, 250, 254, 288**.

License inoperative if undertaking purchased by, 38, 42, 127, **203, 207**.

may appoint arbitrators, 122, **280**.

„ „ Advisory Board, 125, 132, **259**.

„ „ Electric Inspectors, 125, 130, **260**.

„ approve methods of constructing aerial lines, 67, 127, **227**.

„ confer powers of telegraph authority on licensee, 49, **277 et seq**

„ delegate certain powers to Electric Inspectors, 127, 131, **282**.

„ grant licenses, 28 *et seq*, **195 et seq** 320 *et seq*

„ permit supply without license, 111 *et seq*, **246, 247**.

„ purchase undertaking, 33, 39, 43, 87, **203, 207**.

„ relax rules, 346

Antique figures refer to text of Act and Schedule.**LOCAL GOVERNMENT—(Contd.)**

- may revise order of Magistrate or Commissioner of Police, **214**.
- „ revoke licenses, *32 et seq.*, **199 et seq.**, **205**.
- Penalties where works belong to, **277**.
- Service of notices on, **281**.
- to appoint auditors, **110**, **286**.
- Powers of, in connection with* -
 - accidents, **150**, **256**.
 - accounts, **110**, **212**, **256**, **326**.
 - Advisory Boards, **132**, **133**, **259**, **302**.
 - aerial lines, **67**, **127**, **227**.
 - audit, **110**, **286**.
 - charges of licensee, **91**, **133**, **301**, **302**.
 - conferring powers of telegraph authority on licensee, **49**, **277**.
 - dangerous works, **68**, **121**, **127**, **131**, **257**.
 - disputes as to persons supplying energy, **116**, **246**.
 - „ whether a place is one in which one hundred or more persons are likely to be assembled, **250**.
 - Electric Inspectors, **125**, **127**, **130**, **260**, **282**.
 - execution of works, **128**, **129**, **148**, **213 et seq.**, **222**, **226**, **243**, **277**, **287**, **288 et seq.**
 - exemption of persons from provisions of Part III of Act, **250**.
 - granting licenses, *28 et seq.*, **195 et seq.**, **320-323**.
 - land acquisition, *57 et seq.*, **283**.
 - licensee breaking up private land, railways, etc., **45**, **46**, **148**, **214**, **243**.
 - methods of charge and their alteration, **301**.
 - meters, **239**.
 - ordering works to be laid down, **287**.
 - public lighting, **77**, **90**, **102**, **149**, **297**, **303**.
 - purchase of undertakings, *34 et seq.*, **87**, **202**, **203**, **206-207**.
 - relaxing rules, **346**.
 - revoking licenses, *32 et seq.*, **199**, **201-204**, **209**.
 - sale, mortgage, lease, exchange or assignment of license or undertaking, **209**.
 - security, **200**, **285**.
 - supply of energy, **126**, **128**, **148**, **149**.
 - testing, **304-305**.

LOCAL INQUIRY—(See “Inquiry”).**LOG-SHEET for Mines and Oil-fields, 344, 371.****M****MADRAS ELECTRIC SUPPLY CORPORATION, 258.****MAGISTRATE—**

- Definition of, **144**.
- Application to, for recovery of sums, **143**, **282**.
- in relation to the Telegraph Act, **53**.
- may authorize licensee to examine consumer's wires, etc., **106**, **149**, **230**.
- may order support, stay or strut to be placed on, or removed from, private building or land, **149**, **213**.
- may order tree or obstruction to be removed, **53**, **68**, **149**, **227**.
- Persons using energy to give notice to, **150**, **249 et seq.**

MAGNETIC OBSERVATORIES—•

- Power to make rules protecting, **135**, **180**, **262**, **263**.
- Protection of, in United Kingdom, **180**.
- Report of Committee regarding, **263**.

Antique figures refer to text of Act and Schedule.

MAIN, ELECTRIC—

- Definition of "main" and "distributing main," **192, 193.**
- outside area of supply, **195, 243.**
- Requisition for laying, 76, 82, **288, 326, 366.**
- Special provision as to, **297.**

MAIN SEWERS, 219, 222.

MAINTENANCE of insulation, 323, 324, 327 *et seq.*

MALICIOUSLY—

- causing energy to be wasted or diverted, 139, **270.**
- cutting or injuring lines or works, 139, **270.**
- „ off supply, 139, **270, 274, 275.**
- extinguishing public lamp, 140, **275.**
- injuring or altering index of meter, 103, 140, **274.**

MANAGER responsible for observance of certain Rules, 346.

- „ of Mine, defined, 318.

MANDI (Uhl River) scheme, 2, 7, 126, 208.

MAP OF INDIA, showing wind pressure, Frontispiece, 64.

(*See also "Plans."*)

MARGINAL headings of no significance, 17, 197.

MARKET value of land, 60.

MASOULINE includes feminine, 145.

MAXIMUM—

- Charges and Advisory Boards, 91, 132, 133, **302.**
- demand system and meters, 78, 93, 99, 100, **240.**
- power, alterations to be notified, 82, **291, 299.**
- „ Disputes regarding, **292, 299.**
- prices, and alteration of them, 91, 132, 133, **302.**

MECHANICAL POWER, 171, 172, 174.

MEMORANDUM of Association, 321.

MESSAGE—

- Definition of telegraphic, 50.
- "Energy" for transmission of, excluded from Act, **191.**

METAL CASINGS and earthing—(*See "Connection with earth of metal."*)

METALLIC COVERING defined, 317.

METERS—(*See Introduction, para. 18.*)

- Agreement for hire of, 102, **239.**
- Altering index of, 103, 140, **273.**
- Artificial means for tampering with, 140, **265 et seq., 273, 274.**
- B.S.I. standard, 243, 317, Appendix III, 381, 382.
- Check, 77, 104.
- Connecting or disconnecting, without notice, 103, 140, **239, 273.**
- Consumer may elect to purchase, 102, **239.**
- "Correct," 102, **238, 317, Appendix III, 381, 382.**
- Cost of testing, **239.**
- Defined, 317.
- Disputes regarding, and notice to be given of, 104, 105, **236, 239.**
- Expenses of testing, **239.**
- for bulk supply measurement, 241.
- Interference with, 140, **274.**
- Keeping in order, 102, **239.**
- Licensee may not remove, in certain cases, 103, **239.**
- „ may remove, when not required, or for testing, 103, **230, 239.**

Antique figures refer to text of Act and Schedule.

METERS—(contd.)

- Licensee to hire out, 102, **239**.
- Limits of error of, 243, 317, Appendix III, 381, 382
- Maliciously injuring, or altering index of, 103, 140, **273**.
- Maximum demand, 77, 93, 100, **240**.
- new, on change of system, 72
- Notice to be given before referring dispute as to, **236, 240**.
- not subject to attachment, 107, 238
- Overcharges due to faulty, 105.
- Position of, 103
- Power to enter premises to read, 106, **230, 239**.
- Prescribed limit of error in, **240, 243, 317**, Appendix III.
- Preventing, from registering, 140, **274**.
- Providing new, where method of charge is altered, **301**.
- Recording, 165.
- Register of, to be final, 103 105, **240**.
- Sealing, 104, 325, 346
- Security for price of, **239**.
- Supply not to be cut off during dispute as to, 103, **236**.
- Testing and inspecting, 102 *et seq*, **230, 239 et seq**

METHODS OF CHARGING—(See "Charges")

MILITARY PURPOSES, places used for, 14, 31, 124, **195, 198**.

MINES—

- Definition of, 252.
- Electric Inspector for, 121, 125, 131, 260, 317.
- Indian Mines Act* (See *Table of Enactments*, vi)
- Inspector of, defined, 317
- Log sheet for, 344, 371.
- Part IV of Act applies in, **249**.
- Rules relating to, 317, 318, 339 *et seq*.

MINIMUM—

- charges, disputes as to, **233, 291, 299**.
- „ rates of, 92, **303**.
- size of overhead wires, 333.

MISCHIEVOUSLY—

- cutting off supply or extinguishing public lamp, 270, 275.

MODEL FORMS—

- of accounts, 326, 353, 359
- of Annual Return, for oil-fields, 369.
- of license, 30, 321, 348.
- of Licensee's "Conditions of Supply," 78, **231-232, 372**
- of Log sheet, for mines and oil fields, 344, 371.
- of order to comply with rule, 319, 368
- of requisition for mains and supply, 326, 366, 367

MONEY MATTERS—(See Introduction, para. 19)

MONOPOLY, Granting license does not give, 29, **196, 244, 246, 247**.

MONORAIL traction, 169, 170, 175

MORTGAGES of undertaking, 38, 42, **203, 207, 209-210**.

MOTOR GENERATORS for lighting, 98, 99.

MOTOR VEHICLE defined, 169

MUNICIPALITY—(See "Local Authority")

Antique figures refer to text of Act and Schedule.

N

NAVAL PURPOSES, places used for, 14, 31, 124, **195**, 198

NEGLECT, NEGLIGENTLY—

and accidents, 256

as to paying charges by consumer, 105, **236**.

causing energy to be wasted or diverted, 140, **276**.

damaging works for the supply of energy, 140, **276**.

in regard to "good faith," 144, **282**.

"NEUTRAL CONDUCTOR" defined, 317

" " Switches not to be in, 329

NEWSPAPER, advertisement of application for license in, 322

NILGIRI RAILWAY, 3

NITRATES from the air, 4

NEW WORKS—(See "Works").

NON-LICENSEES—

Breaking up streets by (See "*Breaking up*")

Powers and liabilities of, 116 *et seq*

Rules applicable to, 112, 114, 118, 119

Supply competing with Licensee, 29, **196**, 198, **244**, 246 247.

Supply by, 28, 111 *et seq*, 120, 153, **246-248**, 271

NO MONOPOLY—(See "*Monopoly*")

"NORWICH" TARIFFS, 94

NOTICE—

Address of, **281**.

by local authority of resolution to apply for license, **196**.

how served, 147, **281**.

of accidents, 150, **256**.

of aerial lines in emergency, 47, **218**, **226**.

of alteration of maximum power, 82, **291**, 299.

" " or additions to wiring, 82, **291**.

of application for license, 30, **195**, 320 *et seq*

" " or intention to break up streets, 45, **216 et seq**, **222**.

of entry to premises, 106, **230**, **239**.

of licensee intending to purchase or associate himself with other undertakings, **209**.

" " or consumer, regarding meter dispute, **240**.

of new works, 47, **216**.

of price and method of supply, **301**.

to consumer, requesting security, **288**, **290**.

" " of entry to premises, 106, **230**, **239**.

to licensee, of connecting or disconnecting meter, **239**.

" " of intended purchase of his undertakings, **202**, **206**.

" " of revocation, **202**.

to local authority, owners, etc, of laying special service line, **297**.

to or by "owner," "repairing authority," etc, 47 48, **216**, **219**, **222**.

to telegraph authority, 48, **225**.

NOTICE, 69, 70, 229

O

OBJECTIONS, OBJECTIONS—

to breaking up private streets, railways and tramways, **217**.

to fixing support, stay or strut on private building or land, **213**.

to grant of license, 31, **195**, 322

Antique figures refer to text of Act and Schedule.

- OBLIGATION TO SUPPLY**—(See "*Licensing*," "*Supply*").
- OBSERVATORIES**, Protection of, 13a, 180, **262**, 263.
- OBSTRUCTIONS**, Removal of, 63, 68, 119, **227**.
- OCCUPIERS**—(See also "*Consumer*," "*Owner*").
- Consent of, to break up land. (See "*Breaking up*").
- of premises to receive notice of entry, 106, **230**, **239**.
- Requisition by, for laying main, 76, **288**, 326, 366.
- Requisition by, for supply, 74, 76, **290**, 326, 367.
- Service of notices, etc., on, **281**.
- OFFENCES**—(See *Introduction*, para. 27).
- Definition of, 144.
- by any person or licensee, 144, **276**.
- by individuals, tabulated, 139, **265 et seq.**
- by licensees, tabulated, 141, **236 et seq.**, **271**, **276**.
- in cases of emergency, **276**.
- when Government owns undertaking, 126, 142, **277**.
- (See also "*Penalties*").
- OFFICERS**, PUBLIC, protected for acts done in good faith, **282**.
- OIL** defined, 317.
- OIL-FIELDS**
- Form of Annual Return for, 369.
- Log-sheet for, 344, 371.
- Rules, additional, for (Appendix 1), 339 *et seq.*
- Transmission of oil from, 61.
- OPEN SPARKING** defined, 318.
- "OPERATOR"**
- Meaning of, as regards licensee's works, **219**, **222**.
- (See also "*Alteration of pipes, wires, etc.*," "*Breaking up*").
- ORDER**--
- Address and service of, 147, **281**.
- Default in complying with order of Government, 122, 140, 141, **271**, **276**.
- Exemption of persons, by order, from Part III of Act, **250**.
- how served and directed, 147, **281**.
- Maximum prices may be altered by, 80, 91, 132, **302**.
- of Electric Inspector, to comply with rule, 319, 368.
- of Government, in case of defective system or lines, **257**.
- Provisional and Special (British), 9.
- supplementing or amending license, 323.
- to examine consumer's wires, etc., 106, 149, **230**.
- to execute works, **287**.
- OVERCHARGE** due to faulty meter, 105.
- OVERHEAD WIRES**—(See "*Aerial line*,").
- OWNER**--
- as person (not in defined sense) to whom any apparatus belongs, 76, 136.
- Definition of, as regards rules, 136, 318.
- " " as regards laying mains, etc., **216**, **219**, **222**.
- Consent of, to break up private land, etc., 45, 149, **213**, **214**, **244**.
- Entry by Inspector to premises of, 130, **262**, 319.
- Meaning of term "owner," as regards licensee's works, **216**, **219**, **222**.
- " " " " in plain language, 76, 136, 326.
- Notice of works to, 47, **216**, **217**, **219**, **222**.
- of Mine, defined, 318.
- of premises to receive notice of entry, 106, **230**, **239**, 347.

Antique figures refer to text of Act and Schedule.

OWNER—*Contd.*

- of service line, 296
- of tree cut may receive compensation, 53, 68, **227, 249.**
- Part IV of Act applies to, **249.**
- Requisition by, for laying mains, 76, 82, **283, 326, 366.**
- " " for supply, 74, 164, **290, 297, 298, 326, 367.**
- responsible for observance of certain rules, 346.
- Rules applicable to, Appendix I.
- Service of notices, etc., on, **281.**
- (See also "*Alteration of pipes, wires, etc.*," "*Breaking up.*")

P

PARLIAMENTARY COMMITTEES—(See "*Report*").

PAYMENT of fees (See "*Fees*")

- PENALTIES—(See *Introduction*, para. 27. (See also "*Offences*").
- are in addition to payment of compensation, 141, **276.**
 - for breach of license, **271, 276.**
 - " " " rules, 136, **262, 346, 347.**
 - for offences under the Act, Table III, 138, 139 *et seq.*, **265-277.**
 - Liability to revocation not effected by, 141, **276.**
 - not specifically imposed, 136, 141
 - not to be enforced in certain cases of emergency, **276.**
 - Recovery of (extracts from Indian Penal Code), 137, 142, **281.**
 - where works belong to Government, 126, 142, **277.**

PERIODICITY—(See "*Frequency*").

PERIODS—(See also "*Notice*")

- during which use of works may be forbidden, **257.**
- " " temporary aerial line may be kept up, **218.**
- in respect of compulsory purchase, **205.**
- which must elapse before license is granted, **195.**
- " " " " local authority may apply for license, **196.**
- " " " " rules are issued, **264.**
- within which accident must be reported, 150, **256.**

PERSON—

- Definition of, 144
- Acquisition of land by, 59 *et seq.*, **283.**
- Exemption of certain, as regards Part III of Act, **250.**
- other than licensee supplying energy. (See "*Non licensees.*")
- Service of notice on, **281.**
- 'to whom works and apparatus belong,' 76, 136, 326 *et seq*
- using energy in a mine, factory or public place, to give notice, **249, 250.**

PHASE wires, colours of, 332.

PIERS, protecting of, 121, **253.**

PIPES—

- Alteration of (See "*Alteration.*")
- Fusion and electrolytic action on, 176 *et seq.*, **261, 337 et seq**
- Laying wires near, **219, 222.**
- used as conductors, 224

PLANS AND MAPS—

- Inspection of licensee's, **306.**
- Licensee to make, of area of supply, **305.**
- Map of India showing wind pressures, Frontispiece, 64
- of works, **216, 219, 222, 305.**

Antique figures refer to text of Act and Schedule.

PLANS AND MAPS—*(contd.)*

Sale of, 321.

Scale of, **216, 219, 220, 305.**

PLANT—

capacity in India (Tables), 6.

included in "works," **192.**

Reserve, 73, 82, **233.**

(See also "Compulsory purchase," "Generating station.")

POINT where supply begins. (See "Supply.")

POLICE. (See "Commissioner of Police.")

as witnesses, 270.

POSITION of meter, 103.

POSTMASTER-GENERAL. (See "Telegraph authority.")

POSTPONEMENT of supply for overload, **292.**

POSTS, POLES—

Definition of, 50.

Breaking or damaging, 140, **276.**

(Connection with earth of metal. (See "Earthing of metal.")

Factor of safety of, 334.

Maximum interval between, 333.

Power under Telegraph Act to place or remove, 51 *et seq.*, **277, 278.**

(See also *Rules as to aerial lines, page 333 et seq.*)

POWER(s)—

Acts, British, 85.

companies and supply. (See "Bulk supply.")

Electric, note on, 1-3.

factor, **234.**

Maximum electrical, **291, 292, 299.**

Mechanical, 171, 172, 174.

of licensee. (See *Introduction, para. 11*), 44 *et seq.*

of non-licensee, 116 *et seq.*

purposes and lighting, 93 *et seq.*, **234.**

Transmission of. (See "Transmission of energy.")

PREFERENCE—(See "Undue preference").

PREMISES, Access to. (See "Private land.")

PRESCRIBED, defined, **192.** (See also "Forms.")

PRESIDENCY-TOWN, defined, 144.

PRESSURE—

Declared, 71.

Definition of "low," "medium" and "high," 318.

Results of variable, 104.

Testing of licensee's, **304, 305.**

to be constant, 84, 164, 324, 325.

Variation of declared, 84, 164, 324, 325.

PRICE—(See also "Charges").

Addition to, on compulsory purchase, 40 *et seq.*, **206.**

Alteration of, of supply, 72, 91, 132, **301, 302.**

of copies of accounts, 110, **212.**

„ „ „ draft and final license, 321, 323.

„ supply to public lamps, 77, 90, 102, **303.**

Antique figures refer to text of Act and Schedule.

PRIVATE LAND, PREMISES, STREETS, ETC.—

- Access to, 45, 46, 82, 83, 94, 106, 130, 149, **213, 214, 230, 239, 244, 319**
- Licensee not to enter or break up, without consent, 45, **213, 214, 244, 323**
- Licensee may obtain order to examine consumer's wires on, 106, 149, **230.**
- Provisions regarding, in Telegraph Act, 52 *et seq*
- Proviso as to supports, stays and struts on, 45, 149, **213.**
- Restrictions on breaking up (*See "Breaking up"*)
- Streets and roads, **213, 249**
- Works on, 45 *et seq*, 49, 50, 149, **213-214.**

PRIVATE PLANT, 73, 82, 111, 112, **233, 249, 253 et seq.**

PROFIT SHARING, 88 and Table II

PROHIBITION—

- of interference with supply of energy, 78, 139, 140, **231, 265 et seq, 291.**
- „ „ „ consumer's use of energy, 78, **231.**
- of use of dangerous works (*See 'Danger'*)
- of using energy for purposes for which higher rate is chargeable, **234.**
- of works and supply beyond area, 72, **243, 271.**

PROOF OF OFFENCES, Artificial means as, 139, 140, **265 et seq, 274, 275.**

PROSECUTIONS—

- Institution of, 142, **277.**
- where acts are done in good faith, **282.**
- (*See also Table of Cases cited, xvii, xviii*)

PROTECTION—(*See Introduction, para. 22.*)

- of canals, docks, wharves and piers, 121, **253.**
- of officers from personal liability, **282.**
- of pipes and lines, **219-223, 254, 257.**
- of private property, **213.**
- of railways and tramways, 253. (*See also 'Railways,' 'Tramways'*)
- of telegraph lines, 121, **225, 254,** and Appendix I.
- Rules for, of public, 323 *et seq*

PROVINCE, defined, 144

PROVISIONAL ORDERS, British, 9.

PUBLIC—

- Authorities Protection Act, 282
- how affected by Act (*See Introduction, para 33*)
- lamps (*see below*)
- officer, protected for acts done in good faith, **282.**
- Responsibility of, 156 *et seq*
- Revocation of license to be in interest of, 32, **199.**
- Rules for protection of, 323 *et seq*
- Supply of energy to the, without license, 29, 111 *et seq*, 153, **246 et seq**
- Transmission and use of energy in public place, **249-250.**
- Works useful to the, in land acquisition, 61

PUBLICATION—

- of accounts, 110, **212.**
- of draft rules for criticism before issue, 136, 145, 146, **264.**
- of license, 31, 321, 323
- of notices as to licenses, 30, **195.**
- of rules when made, 145, 146, **264.**

PUBLIC LAMPS, LIGHTING—

- Definition of, **192, 303-304**
- Breaking up streets for, 117, **248.**
- Charges for supplying (*See 'Charges'*)

Antique figures refer to text of Act and Schedule.

PUBLIC LAMPS, LIGHTING—(contd.)

Maliciously extinguishing, 140, **275.**

Mischievously extinguishing, 270, 275.

Supply of energy to, 77, 90, 102, 117, 149, 154, **248, 297, 303.**

PURCHASE—(See “Compulsory purchase,” “Sale,” “Land acquisition”).

-money and mortgages, etc., 38, 42, **203, 207.**

of meter by consumer, 102, **239.**

of other undertakings by licensee, 102, **209.**

PURPOSES—

Meaning of, in definition of “energy,” **191.**

Naval or Military, 14, 31, 124, **195, 198.**

Public, land acquisition for, 61, 62.

PYKARA hydro-electric scheme, 208.

Q

QUALIFICATIONS of Electric Inspector, 131, **262, 319.** (See also “Competent.”)

QUANTITY of energy used, ascertaining. (See “Energy, amount of.”)

R

RAILLESS traction (trolley buses), 169, 175.

RAILWAYS—(See Introduction, paras. 34 and 36).

and aerial lines, **249.**

and tramways excluded from Part III of Act, 119, 168, **249.**

Application of sec. 18 (as to aerial lines) to, **249.**

Bonding rails on, 181.

Breaking up. (See “Breaking up.”)

Competitive supply by, 247.

Electrification of, 3.

Electric Inspectors for, 125.

Execution of works in, under, over, along or across, 44, **214, 216 et seq.**

Indian Railways Act, 1890 (see *Table of Statutes*, xv).

Indian Railway Companies Act, 1895, 175.

List of, to be in draft license, 321.

not to be injured or traffic interfered with, 121, **253.**

reference to B.B. and C.I., G.I.P., Kalka-Simla, Nilgiri, etc., 3.

(See also “Electric traction,” “Tramways.”)

RANIGUM Electric Traction and Supply Co., 208.

“Golden Valley” case, 74, 104, 156 *et seq.*, 193, 251, 273, 296, 325.

RATEABLE VALUE and two-part tariffs, 94.

RATES—

Licensee may charge at different, for different purposes, 93 *et seq.*, **234.**

(See also “Charges,” “Undue preference.”)

REBATES, 88, 89, 235, **237.**

RECONNECTING supply, Cost of, **236.**

RECORDING meters, 165.

RECORDS of tests of supply, **304, 320, 324.**

“ “ “ submission of to licensee or Inspector, 320.

RECOVERY OF SUMS—

how effected, 136, 143, **281.**

in case of charges for energy, **236.**

“ “ “ fines, 136, 143, **281.**

“ “ “ revocation, **203, 205.**

Antique figures refer to text of Act and Schedule.

REFUSAL to allow entry, 82, **230**, 324.

to supply, 80, 165, **233**, 288, **290**, 324.

(See also "*Cutting off supply*")

REGISTRATION of postal notices, for valid service, 147.

REGULATION—

Definition of, 144

(See "*Rules*")

REINFORCEMENT of streets, railways, tramways, sewers, and tunnels, 48, **203**, **205**, **224**.

REMEDYING SYSTEM AND WORKS, 68, 121, **257**.

REMISSION—

of fees for testing and inspection, 285.

of Rules, 309.

REMOVAL—

of aerial line, **218**, **227**, 337.

of meters, 103, **230**, **239**.

of posts under Telegraph Act, 51 *et seq.*

of support, stay or strut, **213**.

of temporary aerial line, **218**.

of trees or obstructions to aerial line, 53, 68, 149, **227**.

of unused aerial line, 337.

of works of licensee, **203**, **205**, **224**.

RENEWAL of licensee's works, notice to be given, **217**.

RENT may be paid for certain works on private property, **213**.

Meter, 102, **239**.

"REPAIRING AUTHORITY"—

Meaning of and notice to, **216**, **217**.

(See "*Alteration of pipes*," "*Breaking up*.")

REPAIRS—

of licensee's works, **217**, **224**.

of streets, expenses of, **224**.

to be carried on by licensee by day and night, **218**.

REPEALING AND AMENDING ACT, 1914, 16, 187, 190, 297

" " " " 1925, 16, 187, 190.

REPEALS—

and savings discussed, 184 *et seq.*

of Act XIII of 1887, 8

" " III of 1903, 184, **283**.

of Bengal Act IX of 1895, 9, 185

" " I of 1902, 9, 185

Provisions of General Clauses Act as to, 146, 147.

REPORTS—

Kitson Clause in, 85

of accidents to be made, 120, 150, **256**.

of Bengal Government Committee regarding magnetic observatories, 263.

of Committee of Amendment, Indian Electricity Act, 1903, 13

of Committee on British Power Bills, 85.

of Conferences of Electrical Engineers and Inspectors, 99, 115, 235, 265

of Hydro-electric Survey of India, 1, 5

of Indian Electricity Act (Amendment) Committee, 124

of Joint Select Committee of 1893 on "*Electric Powers (Protective Clauses)*," 1 and

Crosses 178 *et seq.*

of Joint Select Committee of 1898 on "*Generating Stations and Supply*," 85, 178.

Antique figures refer to text of Act and Schedule.

REQUISITION—

- by distributing licensee, for bulk supply, **298**.
- by Government or local authority for supply for public lamps, 77, 91, 102, 149, **288**, **297**.
- by "owner" for arbitration as to works or compensation, **217**, **220**.
- by owners or occupiers for laying of mains, 76, 82, 164, **288**.
- " " " " " " supply, 74, 163, **290**, **297**, **298**, 367.
- Model Forms of, 366, 367, 368

RESERVE—

- fund account for licensees, 357, 363.
- supply by licensee, 73, 82, **233**.

RESPONSIBILITY for observing Rules—

- of consumer, 18, 73, 76, 81, 104, 107, 119, 150 156 *et seq.*, 193
- of licensee, 73, 76, 81, 104, 107, 119, 150, 156 *et seq.*, 346.
- of "owner," 76, 81, 119, 346
- of owner, agent or manager, 346.
- of "person to whom (apparatus), belongs," 76 81, 119, 150, 156 *et seq.*, 263.

RESTRICTIONS—

- on breaking up private land, railways, etc. (*See "Breaking up."*)
- on transfer of undertaking or association, 108, **209**, 210
- on use of energy. (*See "Use."*)

RETURN, ANNUAL, for oil-fields, 369.

REVENUE ACCOUNT, Form of, for local authorities, 355, 356.

- " " " " companies, 361-363.

REVISION—

- of license. (*See "License, amendment of"*)
- of maximum charges, 91, 132, 133, **302**. (*See also "Advisory Board."*)
- of order regarding support, stay or strut, 213.
- " " or refusal of order, to break up streets, 118, **248**.

REVOCATION OF LICENSES—(See Introduction, para. 9).

- by consent, 32 *et seq.*, **200**, **209**.
- Date of, **202**.
- extends only to original licensee, **203**.
- Imposition of conditions in place of, 33, **200**.
- of local authority's undertaking, 39, **205**.
- Penalties may be incurred in addition to, 141, **276**.
- Provision if no purchase in case of, 33, 39, **203**, **205**, **209**.
- Provisions in case of, 32 *et seq.*, **202 et seq**
- Purchase in case of, 33 *et seq.*, **202 et seq**
- Reasons for, 32, **199**.
- Serving notice of, **202**.
- To be in public interest, 32, **199**.
- Working of undertaking after, pending sale, **204**.
- " " " " in place of, **200**.

ROAD—(See also "Street")

- Definition of, in Indian Tramways Acts, 170.

ROOMS, tariffs based on, 94

RULES—

- (*For detailed list of rules and forms in Appendices, see pages 309 to 313*)
- Application of, to various parties (Table III), 138 (*See also "Responsibility"*)
- " " to non-licensees, 112, 114, 118, 119, 138, 329 *et seq*
- as to aerial lines, 133
- Definition of, 144
- Condition of supply (*i.e.* Licensee's rules), (App. II), 78, **231**, 372 (Model Form).
- Explanatory notes on, 18, 315 *et seq.*

Antique figures refer to text of Act and Schedule.

RULES—*Contd*

- Local Government cannot make, 125, 135.
- Order of Electric Inspector to comply with, 319, 368.
- Penalty for infringing, 136, 258, **262**.
- Power for making, 134 *et seq*, **261 et seq**
- Previous publication of, 136, 145, 146, **264**.
- Provisions of General Clauses Act as to, 145 *et seq*.
- Relaxation of, 346
- Responsibility for observance (*See "Responsibility."*)
- Scrutiny of, by Advisory Board, 133, 134, **264**.
- under the repealed Acts (*see Introduction, para. 4*), 11, 147.
- under this Act (*see Introduction, para 26, and Appendix I*), 134 *et seq.*, **261-265 et seq.**, 309 *et seq*
- Wiring, of the Institution of Electrical Engineers, 81.
- (*See also "Conditions of supply"*)

S

SAFETY of the public, Rules for, 323 *et seq*.

Remedying dangerous works, 68, 121, **257**.

SALE—

(*See also "Compulsory purchase."*)

of copies of accounts, 110, **212**.

„ „ „ license, 321, 323.

„ copies of draft license and plans, 321

„ undertaking requires consent, **209**.

Sums recoverable by, 137, 143, **281-282**.

Working of license during completion of, **204**.

SANCTIONS, for supply without license, 115

SAVINGS—(*See Introduction, para 37*)

as to licenses and agreements existing before Act, 146, 184 *et seq*, **283**.

SCALE of maps and plans, **216**, 219, **220**, **305**.

SCHEDULE TO THE ACT—

deemed to form part of every license, 29, **196**, **284**.

Modification of, 29, **196**, **284**.

„ „ in case of bulk supply, 86, 87, **197**.

Text of, annotated, **284 et seq**.

SEALING OF METERS, ETC., 104, 325, 346.

SECTION, Scale of plan and (*See "Plans."*)

SECURING REGULAR SUPPLY, rules for, 323 *et seq*.

SECURITY—

Arbitration as to, **288**, **292**.

Cutting off supply for failure to give, 82, **291**.

Deposit, interest on, 109, 379

Disputes as to, **220**, **288**, **290**.

for execution of licensee's works, 109, **200**, **285**.

from consumers, 75, **288**, **290-291**.

SELLING undertaking, (*See "Compulsory purchase."*)

SEPARATE—

accounts of undertakings, 109, 163, **287**.

supply, premises having, 73, 82, **233**.

SERVICE LINES—

Beginning and end of, 157, 162.

Definition of, **192**, 193

Cost of, **290**.

excluded from notice to repairing authority or owner, **216**.

Antique figures refer to text of Act and Schedule.**SERVICE-LINES—*Contd.***

- Hire or hire purchase of, 75, 238, 294.
- Maintenance of, **292**.
- Notice to telegraph authority of placing, **226**.
- Ownership of, 296.
- Rules as to, 325 *et seq.*
- Special provision as to, 164, **297**.

SERVICE of notices, etc., 147, **281.****SEVERANCE in connection with compulsory purchase, 38.****SEWERS—(See “*Alteration of pipes*,” “*Breaking up*”).****SHAN STATES, 215, 231, 252.****SHOCK, ELECTRIC—(See also “*Accidents*”).**

- Precautions against, 81, 326.
- Risks of, 80, 81, 84, 273, 326, 329.
- Rule regarding, 326.

SIGNALLING, interference with, 126, **225, 244, 254, 262.****“SIMILAR CIRCUMSTANCES” in supply, 95 *et seq.*, **233**.****SINGULAR includes plural, 145.****SINKING FUND, 356.****SLIDING SCALE, 87, 88, Table I.****SMOKE NUISANCE, 70.****SPECIAL ORDERS (British), 9.****STANDARDS of Electrical measurement, 347, 348.****STANDBY SUPPLY, 73, 82, **233**.****STATISTICS of supply, 4-8.****STATUTES AND ENACTMENTS, Table of, xv.****STAYS AND STRUTS to be earthed. (See “*Earthing of metal*.”)****STEALING—**

- Copper wire, 270.
- energy evidence as to, and penalty for, 139, **265-270**.
- (See also “*Improper use of energy*.”)

STORMS, Failure to supply due to, 167, **290, 297.****STREET—**

- Definition of, **192**.
- Alteration of existing works in, **217**.
- Execution of works in, over, along or across, 44, **213 *et seq.*, 243 *et seq.***
- Laying works near existing works in, **222, 223**.
- Power to break up. (See “*Breaking up*.”)
- “ ” “ ” “ ” by non-licensees, 111 *et seq.*, **247, 248**.
- Powers of Government or local authority as to lighting. (See “*Public lamps*.”)
- Private, 249.
- Reinstating, 48, **203, 205, 224**.
- Restrictions in case of private. (See “*Breaking up*.”)
- “ ” on transmission or use of energy in any, **249-250**.

STRUCTURES interfering with aerial lines, 68, 149, **227, 249.****STRUTS AND STAYS to be earthed. (See “*Earthing of metal*.”)****“SUBJECT AND CONTEXT,” note on, 326.****SUBMARINE CABLES, 156, 182 *et seq.*, 255.****SUBORDINATES and Chiefs, 147, 264.**

Antique figures refer to text of Act and Schedule.

SUBSTATIONS, 326, 330, 333, 338.

SUBWAYS as buildings, 215.

SUIT, where act done in good faith, **282**.

SUMS—

how recovered, 136, 143, **281**.

due other than for energy supplied, **236**, 237.

in case of dispute to be deposited with Electric Inspector, 105, **236**.

SUPPLY—

Alteration of charges for, 91, 133, **301**, **302**.

„ of system of, 71, 90.

and use of energy. (*See Introduction, paras. 16, 17, 20, 21; see also "Charges," "Energy," "Use."*)

Area of, defined, 72, **191**.

beyond area licensed, 29, 72, 111, **195**, **244**, **271**.

Business of, 116, **246**.

Combined traction and electric, 34 *et seq.*, 163, 210.

Commencement of, 73, 74, 103, 160, 193, **229**, 325.

Compulsory works and, 46 *et seq.*, **287 et seq.**

Conditions of, issued by licensees, 78, **231**, 373.

Contract for, 75, **290**, 293.

Cutting off, from consumer. (*See "Cutting off Supply."*)

„ „ maliciously, negligently or mischievously, 140, **270**, 274-276.

Engaging in the business of supplying, 116, **246**.

Every person in area entitled to, 73, **233**, **290 et seq.**, 367.

Expenses of cutting off or reconnecting, **236**.

Failure to, 80 *et seq.*, 165, 166, **271**, 272, **292**.

Honzada case, 116

in bulk, 13, 85 *et seq.*, 114, **197**, 199, 210, 235, 241, **298 et seq.**

in factory or public place, 118 *et seq.*, **249**, **273**.

Interference with, 77 *et seq.*, 140, **230**, **231**, **265**, 270 *et seq.*, 291.

Interruption of, for testing, 83, **305**.

Limited available, 233.

Maliciously cutting off, **270**, **276**.

Mischievously cutting off, 270, 275.

Negligently cutting off, 140, **276**.

not to be interfered with by consumer, 78, **231**, **291**, **292**.

Obligation on licensee to give, 73, 163, **233**, **290 et seq.**, **297**, **298**.

of energy under license, 28 *et seq.*, **194 et seq.**, 246.

Point where supply begins, 73, 74, 103, 160, 193, **229**, 325.

Refusing, 80, 165, **233**, 288, **290**, 323, 324.

Requisition by consumer for, 74, 163, **290**, **297**, **298**, 326, 367.

„ „ Local Government or local authority, 77, 91, 102, 149, 154, **288**, **297**
326, 367

Rules for securing a regular and sufficient, 323 *et seq.*

Standby or reserve, 73, 82, **233**.

System of, 70 *et seq.*

Testing the, **304**, **305**.

to be constant, 84, 164, **290**, 324, 325.

to the public. Meaning of, 246.

to public lamps (*See "Public lamps."*)

Value of, ascertaining, **238 et seq.**

without license (*See "Non licensees, supply by."*)

REPORTS—

for undermined works, **223**.

on private property, 45, 149, **213**.

to be earthed. (*See "Earthing of metal."*)

Antique figures refer to text of Act and Schedule.

SWITCHGEAR defined, 318.

SYSTEM—

- Electric, defined, 318.
- of charges. (*See* “Charges.”)
- of construction of aerial lines. (*See* “Aerial lines.”)
- of supply, 70 *et seq.*
- “ ” altering, 71, 90.
- Remedying defective, 68, 121, **257**.

T

TABLE OF STATUTES AND ENACTMENTS—xv.

TARIIFS. (*See* “Charges.”) 90 *et seq.*, 235.

TELEGRAPH, definition of (*in Indian Telegraph Act*, 1885), 50.

- Act (Indian), 1885. (*See Table of Enactments*, xv.)
- “ ” definitions apply to Electricity Act also, 50, **191**.
- (*See also* “Submarine cables.”)

TELEGRAPH AUTHORITY—

- Definition of, and officer, 50.
- Delegation of powers of, regarding lines and posts, 49 *et seq.*, 125, **277 et seq.**
- Disputes between licensee and, 126, **254**.
- “ ” local authority and, 52.
- Notice in emergency to, **226**.
- “ ” of new works to, 48, **225**.
- Reasonable requirements of, **226**.

TELEGRAPHIC OR TELEPHONIC LINES, WIRES, ETC.—

- Definition of, 50.
- Danger to, from works, 121, 126, **257**.
- Emergency with regard to, **226**.
- Extracts from Telegraph Act regarding placing of poles, 49 *et seq.*
- Guarding when crossing, 335-337.
- Interference with. (*See* “Interference.”)
- Rules for protection of, 261, 329 *et seq.*
- Submarine cables, 156, 182 *et seq.*, 255.
- (*See also* “Connection with earth.”)

TELEPHONE—

- companies, 156.
- included in “telegraph,” 50.
- Interference with. (*See* “Interference.”)
- Licensee's private systems of, 56, 57.

TERMS OF—

- license (*See* “License.”)
- purchase (*See* “Compulsory purchase.”)

TESTING AND INSPECTION—

- as to instruments and testing stations, **304, 305**.
- “ ” licensee's works, **304, 305**.
- by licensee, 81, 105, **230, 304, 323 et seq.**
- Entry to licensee's premises for. (*See* “Entry on premises.”)
- “ ” consumer's premises for. (*See* “Entry on premises.”)
- “ ” owner's premises for. (*See* “Entry on premises.”)
- Facilities to be given for, **304, 305**.
- Fees for, **262, 320, 348**.
- Interruption of supply for, 83, **305**.

Antique figures refer to text of Act and Schedule.

- TESTING AND INSPECTION**—*Contd*
 of earth return current, 338
 of high pressure circuits, 333
 of insulation, 323, 324, 337, 338
 of meters, etc., 102 *et seq*, **230, 239** *et seq*
 of potential difference on return, etc., 338, 339
 Power to frame rules as to, **262**.
 Rules regarding, Appendix I
 (See also "*Electric Inspector*")
- THEATRES**—(See "*Cinematograph*")
- THEFT OF ENERGY**, 139, **265-270**.
 of copper wire, 270
- THOROUGHFARE**, Street not necessarily a, **192**.
- THREE WIRE SYSTEM**, 79
- TIME**—(See "*Dates*," "*Notice*," "*Period*")
- TRACTION, ELECTRIC**—(See "*Electric traction*," "*Railways*," "*Tramways*")
- TRAFFIC** not to be interfered with, 121, **253**.
- TRAMWAY(S)**—
 Bonding rails of, 181
 Breaking up of (See "*Breaking up*")
 Definition of, 170
 combined with electric supply, 34 *et seq*, 163, 210
 Compulsory purchase of, 41, 42, 172 174
 General law on subject of, see *Introduction, paras. 35, 36*.
 List of, to be in draft license, 321
 Local Acts regarding, 176
 not to be injured, 121, **253**.
 "Orders," 171 *et seq*
 Placing works in, under, over, along or across, 44, 45, **213, 216-218**.
 Powers for laying down, 168 *et seq*
 Rules regarding electric, **261, 337 et seq**
 subject to Railway Act, exempted from Part III, 119, 168, **249**.
 Valuation of, 41, 42, 172 174
 (See also "*Electric traction*" and *Tramways Acts in Table of Documents, xv*)
- TRANSFER** of undertaking, consent required for, 108, **209**.
 (See also "*Compulsory purchase*")
- TRANSFORMING** supply on premises, 235.
- TRANSMISSION OF ENERGY**—
 (See *Introduction, paras 12 and 21*)
 Delegation of powers of telegraph authority for, 49 *et seq*, 125, **277 et seq**
 from generating station outside area of supply, **195**.
 in street, illegally, 156 *et seq*, 249, 251, **273**.
 Notes on, 2, 45 *et seq*
 under Part III, in streets, factories, mines, 118 *et seq*, **249-253**.
- TRAVELLING EXPENSES** of Advisory Board, **259**.
- TREE**—
 defined, **277**.
 Interference of, with aerial lines, 53, 68, 149, **227, 249**.
 " " on railways, **249**
- TROLLEY BUSES** 169, 175
- TUNNELS** (See "*Alteration of pipes*," "*Breaking up*")
 , meaning of 214
- TWO PART** tariffs, 94

Antique figures refer to text of Act and Schedule.

U

UHL RIVER (Mandi) scheme, 2, 7, 126, 208.

UNDERMINING pipes, supply lines, or works, **223**.

UNDERTAKERS. (*See* "Licensee.")

UNDERTAKING—

Assignment of license or, **209**.

belonging to Government, 127, 142, **277**.

Combined lighting and tramway, 34 *et seq.*, 163, 210.

Compulsory purchase of. (*See* "Compulsory purchase.")

List of Electrical, in India, 4-8, 110.

not to be assigned, sold, mortgaged, leased or exchanged, 108, **209**.

purchased by Government, **203, 207**.

Sale, transfer, lease or exchange of, by licensee, 108, 209.

Separate accounts for each, **287**.

when purchased to vest in purchaser free of debts, etc., 38, 42, **203, 207**.

Working of, in place of purchase of, **207**.

„ „ during completion of sale, **204**.

„ without license. (*See* "Non-licensees, supply by.")

UNDUE PREFERENCE, Licensee may not show, 95 *et seq.*, **234**.

UNINSULATED RETURNS for tramways, rules as to, 337 *et seq.*

(*See* Introduction, para. 36.)

UNITS—

"Board of Trade," "kilowatt-hour" or "Kelvin," 90.

Electrical definitions of, 315, 317, 318.

generated in India (Table), 7.

UNUSED AERIAL LINE to be removed, 337.

USE—

Dishonest abstraction, consumption or, of energy. (*See* "Stealing energy.")

Improper use of energy, *q.v.*

of any special appliance not to be prescribed by licensee, 77, **231**.

of apparatus not to interfere with supply, 78, 81, 82, **231, 291**.

of energy, defined, **191, 249, 318**.

„ „ in relation to land acquisition, 61, **283**.

„ „ not to be interfered with, 77, **231**.

„ „ supplied under inapplicable tariff, **234**.

„ „ without notice, penalty for, 120, **273**.

or transmission of energy under Part III, to be notified, 118, **249-253, 273**.

Rules regarding use of energy, 323 *et seq.*

VALUE of undertaking, 40 *et seq.* (*See also* "Compulsory purchase.")

of supply, ascertaining, 104, 105, **240**.

VARYING—

license clauses, 33, **200, 323**.

maximum price of energy, 91, 133, **301, 302**.

pressure or frequency, 71, 84, 324, 325.

Schedule clauses, 29, **196, 284**.

terms of compulsory purchase, 40, 86, **211**.

VETO, Local authority has no, **152**.

VEXATIOUS OBJECTIONS, 322.

VOLT defined, 318.

Antique figures refer to text of Act and Schedule.

W

WASTING ENERGY maliciously, 139, **270**.
negligently, 140, **276**.

WATER—

Companies and licensees, 155
Electrolytic action on water pipes, 176 *et seq*, 261, 337 *et seq*
power, 1, 2, 5, 32, 126, 208, 233.
(See also "*Alteration of pipes, etc.*")

WATERWAY—

Interference with traffic on, 121, **253**.
Placing works in, under, over, along or across, **216**.

WATT defined, 318

Technical explanation of, 318, 319

WHAIVES, protection of, 121, **253**.

WYLLAVIS, 49 *et seq*

"WEATHERPROOF" wires, 336.

WHITE ants, 63

"WIRELESS ELECTRIC LIGHTING," vi, 183, and *passim*.

WIND PRESSURE, Chart, Frontispiece, 64

WIRLS, WIRING—

Alteration of (See "*Alteration*")
Minimum size of overhead, 333.
Rules relating to, 80, 81, 326 *et seq*
(See also "*Contractors, licensed wiring*," "*Electric Supply lines*," "*Testing and inspection*")

WORKS—

(See *Introduction, para 11.*)
Access to (See "*Access*")
Arbitration as to (See "*Arbitration*")
belonging to Government. (See "*Government.*")
Compensation in regard to. (See "*Compensation.*")
Compulsory, 46 48, 198, **287**.
Connection to licensee's, without consent, **274**.
Damage to, compensation and penalties (See "*Damage, 'Compensation,' 'Penalties'*")
Dangerous, 68, 121, 127, 131, **257**.
Definition of, 48, **192**.
Deposit on account of licensee's, **285**.
Disputes regarding compensation in case of (See "*Compensation*")
Guarding or lighting of, 48, **224**.
Inspection and testing of licensee's, **304, 305**.
Licensee to have access to his lines and (See "*Access*")
Maliciously cutting or injuring, **270, 274, 275**.
Meaning of defined and undefined, 48, 194
Mischievously damaging, 270, 275
Naval and Military, 14, 31, 124, **195, 198**
Negligently damaging 140 **276**.
Notice of intention to carry out, 47, **214, 306**.
" " repair or renewal of, to be given, **217**.
not liable to attachment, 107, **238, 282**
of licensee on consumer's premises, 106 107, 156 *et seq*, **230, 238, 325, 327**
of revoked license, if not purchased, to be removed, **203, 205, 224**.

Antique figures refer to text of Act and Schedule.**WORKS—*contd***

- on private land, 45 *et seq*, 49, 50, 149, **213-214**.
- outside area of supply, 29, 72, 111, **195, 244, 271**.
- Plan of, **216, 219, 222, 305**.
- Power to execute, 44 *et seq*, **213 et seq**
- Remedying defective, 68, 121, 127, 131, **257**.
- Security for execution of, 109, **200, 285**.
- Telegraph, disputes as to, **254**.
- Testing licensee's works, etc, **304, 305**.
- under Land Acquisition Act, "work" includes "energy supplied," 61, **283**.
- " " " must be "useful to the public," 61
- (See also "Electric supply-lines," "Railways," "Tramways")

WORKS COSTS in India, 110

